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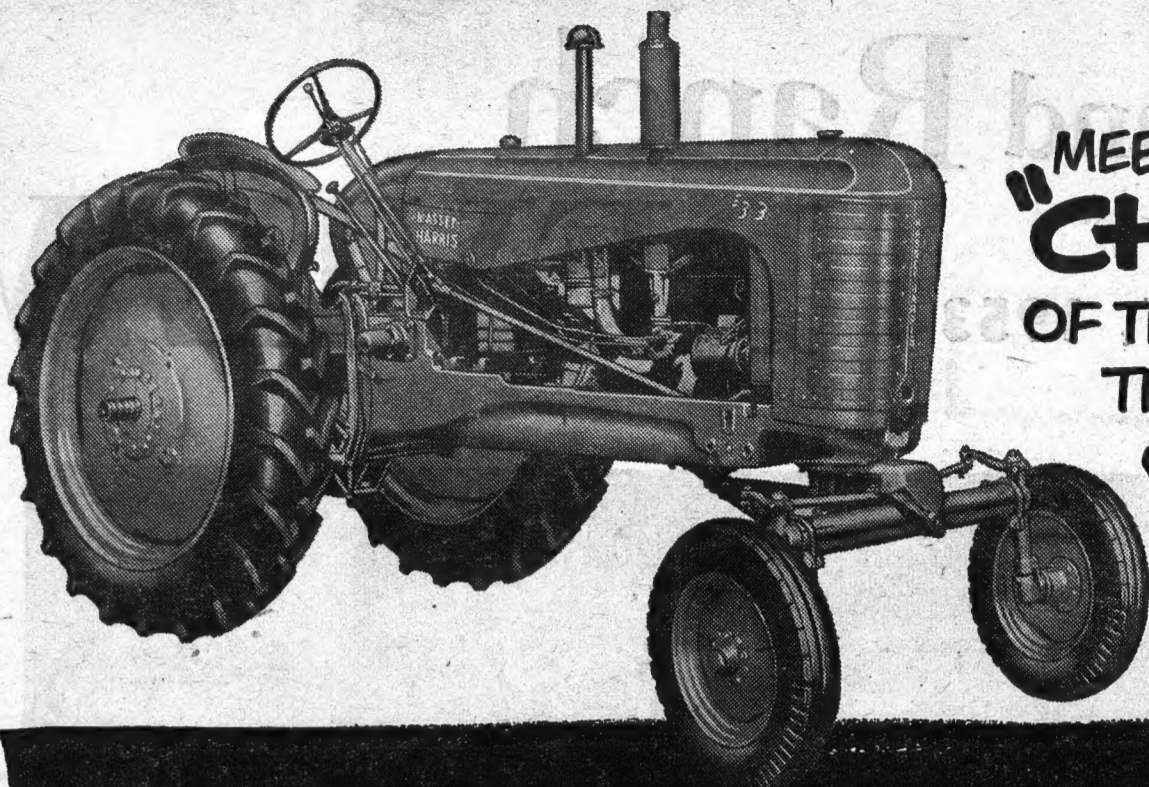
Farm and Ranch REVIEW

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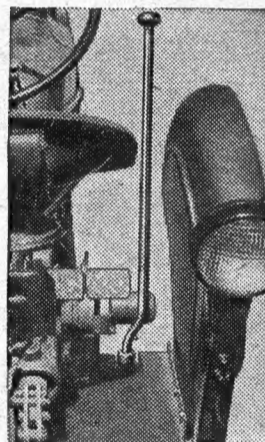
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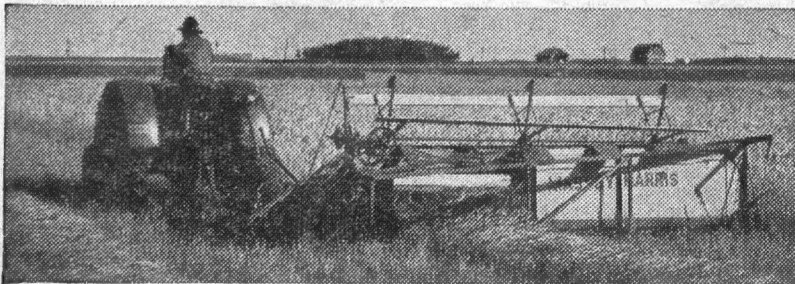
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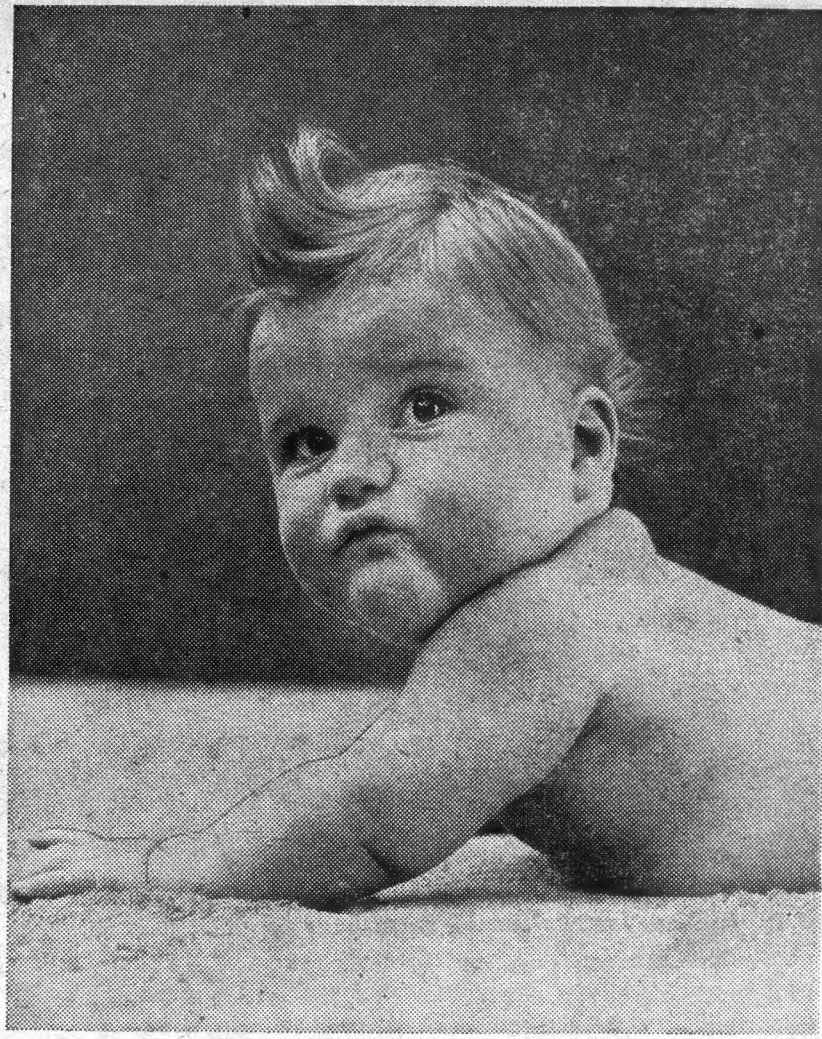
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The Farm and Ranch Review

Graphic Arts Bldg., Calgary, Alberta

Vol. XLIX

Founded in 1905 by Charles W. Peterson

No. 2

James H. Gray, Editor

P. Peterson, Advertising Manager

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Moving the 1951-52 grain crop

MANY records were broken in handling and marketing the huge prairie grain crop last year. A total of 718 million bushels of grain was delivered by farmers and 672 million was moved by the railways which in itself was a remarkable accomplishment. Handlings at Fort William-Port Arthur created a new record as also did shipments from every Canadian grain port.

Mr. Milner stated that there never was a shortage of grain cars. Tie-ups resulted from the need to ship saleable wheat to tidewater on Wheat Board contracts early in the year, the inability of terminal elevators to unload grain from cars, and the special attention which had to

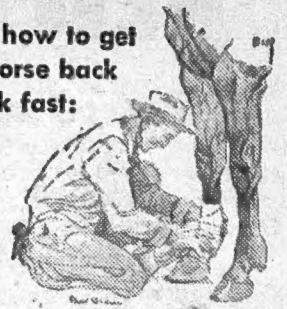
be given to preference shipments of damp grain.

The following table gives some statistics of interest provided from Mr. Milner's speech:

	Bushels
1951-52 farm deliveries	718,000,000
Shipped from country points	672,000,000
Shipped from lakehead by water	421,000,000
Shipped from lakehead by rail	50,000,000
Pacific coast exports	113,000,000
Port of Churchill exports	7,250,000
Shipped to interior terminals, flour mills, etc.	80,000,000
Montreal shipments	141,557,000
Sorel shipments	21,467,000
Three Rivers shipments	15,935,000
Quebec shipments	28,230,000

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The Farm and Ranch Editorial Page...

The Outlook dam is now a dead horse

THE completely negative report of the Royal Commission on the South Saskatchewan river came as much of a shock to us as it did to most of our readers. Perhaps one reason for this was the fact that for many years we have been hearing only one side of the story — the case for the big Outlook dam. It's the old story of having something repeated over and over until it comes to be accepted as true. That the case was by no means as sound as it was made out to be is amply demonstrated by the commission report.

Royal Commissions, being composed of human beings, can be as wrong in their judgments as the rest of us. It could be that time will demonstrate that the Hogg Commission was wrong in its judgment. But until more facts are produced, it seems to us that we will have to go along with the commission and write off the Outlook dam as just another project that seemed like a good idea at the time but didn't work out.

It may well be that an audit of the commission's estimate of the cost of the dam will substantially reduce its figures. Certainly the gulf that separates the commission's estimate and that of the P.F.R.A. engineers ought to be thoroughly examined. It could be, that if the P.F.R.A. figures should prove the most accurate, a re-examination of the feasibility of the project would be in order.

But from our point of view, we are more concerned with two other aspects of the commission report. One is the legal tangle, the difficulty of getting anywhere with this big project in Saskatchewan in face of the combined opposition of Alberta and Manitoba. The second is the failure of the supporters of the project to convince Mr. Widsoe of the feasibility of the irrigation aspects of the development, or to sell Mr. Hogg on the soundness of the power development.

Let's deal with the legal aspects first. Through the years we have gradually built up a body of law that sets out, rather clearly, jurisdiction over rivers. These laws, basically, are the outgrowth of the need to safeguard the interests of downstream residents along our rivers. People living upstream can develop rivers in various ways, but not in any way which will destroy the use of the rivers for those living downstream. Thus rivers which cross and recross our international boundary are governed by a special body — the International Joint Commission. This body decides between the water claims of residents of both sides of the border, both upstream and down stream.

Manitoba, in the case of the Saskatchewan river, has a serious stake in the disposal of the water in the Saskatchewan. The river flows into Lake Winnipeg, ultimately, and is a large potential source of power. Because it is unsure that its power rights would not be affected, Manitoba opposed the development of the Outlook project. So did Alberta, though with less reason. Alberta wants the

money spent in Alberta to provide irrigation in this province. To the people of Saskatchewan this may seem like a dog-in-the-manger attitude, after all the millions Canadian taxpayers have poured into Alberta. Let's say that's so; Alberta is still within its rights in sitting in the manger and vetoing the scheme.

Thus it can be said that the scheme was doomed from the start because its advocates did not iron out the constitutional difficulties before the case got to the Royal Commission. This would have been a costly oversight, if it was the only argument against the project.

Dr. Clark was a great patriot

WE have probably had as much to say of a critical nature about government officials as any other magazine in Canada. There have been times when we found ourselves completely out of step with the fiscal policies being pursued by the Canadian Government. But none of this should be taken as any evidence that we ever doubted that Dr. Clifford Clark, the deputy minister of finance who died last month, was a great man and a great Canadian.

Dr. Clark was brought into the department by the late R. B. Bennett. Thus he had to carry not only the depression burden but the terrible load of responsibility as a result of the Second World War. On the whole, we think that history will record that the fiscal policies adopted by Canada to pay for the costs of the war and reconstruction were well conceived and far sighted. But the day to day strain of devising and administering policy, through such a long procession of hectic years, was something that only those who lived through it can appreciate.

Dr. Clark was one of these. His health broke early in the war. Yet, flying in the face of doctor's orders, he kept continually at his desk. His devotion to duty shortened his life and his sudden death last month can only be described as a delayed war casualty.

Not even those who quarreled with him most violently could ever charge that Dr. Clark had any other motives, in anything he did, than to serve his country to the limit of his ability. He was a great man in more ways than one, great in the flexibility and scope of his mind, great in his devotion to his country, great in the depth of the affection he engendered in all the brilliant people who have been associated with him. The stamp he left behind him was double-sided, on the fiscal policies of the country and in the hearts of those who worked with him.

His sudden passing brings a feeling of real grief to all who knew him and this country has suffered the loss of one of its most talented servants.

Unfortunately, there were others. Mr. Widsoe was a lifelong advocate of irrigation, a practical irrigator and a man with an idealist's approach to farming as a way of life. We are convinced that he approached this particular project with a favorable disposition. We are convinced that if a way could have been found to justify it as an irrigation development, nothing could have prevented him from reporting favorably on it. Instead, the most favorable judge the supporters could have had could not be sold on the soundness of the scheme.

Then, Dr. Hogg came to the commission after a long career as head of Ontario Hydro. He was in addition the author of the plan under which the Province of Manitoba took over the power resources of that province for public development. Dr. Hogg is obviously not a person with any prejudices against public power projects. And as one whose lifetime experience has been in the generation of hydro power, he is unlikely to be prejudiced in favor of steam-power production. But Dr. Hogg refused to put his professional reputation on the line in approving the scheme.

Thus the case comes down to this: It's irrigation side could not be sold to a friendly irrigationist and its power case could not be sold to a life-long advocate of public power. As to the other aspects, we are not prepared to discuss them at this time. Our readers will find a condensation of the commission's report on page 14 of this issue.

There remains this question: Where do we go from here?

Various so-called leaders of public opinion in Saskatchewan have leaped into the public prints. They have advocated ignoring the report and going ahead anyway. With this we have no sympathy.

In the first place, it would be extremely difficult to obtain the necessary backing in Parliament for the grants necessary to pay the shot in face of so adverse a judgment. From a practical political point of view, would the people of Saskatchewan, for example, vigorously support building a railway to the iron ore deposits in Labrador in face of a royal commission report rejecting the proposal? We think not. Neither will eastern members be easily talked into voting tax money to pay for the South Saskatchewan dam.

A better way would be to retrace our steps. Let's back off and start over. Let's concentrate on smaller things, like the development of the Qu'Appelle valley. Let's get busy on investigation of the practical possibilities of irrigating land that is useless without irrigation — the really dry land in western Saskatchewan and eastern Alberta. It is axiomatic, anyway, that the marginal lands, like those which the Outlook dam would have irrigated, are the graveyard of irrigation schemes.

As for the P.F.R.A. itself, all that is required is a change of direction. Here, too, a retracing of steps may be in order. The P.F.R.A. was established as its very name will emphasize, to rehabilitate prairie farms. From the building of farm dug-outs and small stock water dams, it went far afield into such projects as the St. Mary's river dam. The Outlook dam was to be the biggest of them all. The report of the commission will be a disappointment to the P.F.R.A. It is by no means a death knell to its usefulness. There is still an immense amount of work to be done in the West, work of a kind that the P.F.R.A. can do very well.

Farm and Ranch Editorials

The Currie Report and the General Staff

THE vigorous attempt by everybody concerned to absolve the Canadian army for the blame for conditions revealed by the Currie report simply will not wash.

We can understand the stand taken by the Tory officers corps in the House of Commons. It is consistent with their stand through the years that the armed forces can do no wrong, and that the Liberal Government can do nothing right. What puzzles us is Mr. Claxton's refusal to allow the blame for the mess to be placed where it rightly belongs — on the door of the general staff and more particularly with the Works Department.

The excuse given for the mess at Petawawa is that the armed services had to be expanded so rapidly that it was impossible to find the necessary trained personnel to fill responsible posts. At first glance there is an element of reason to this. But upon examination it becomes an indictment of the lack of efficiency on the part of the army in fulfilling its primary function.

Our defense system in Canada is based upon this rule — we maintain in times of peace only the nucleus of a standing army. Our wars are fought with citizen soldiers recruited when the need for their services arises. The function of our army in peacetime is to establish and maintain an organization which can be expanded immediately there is need for expansion.

It has never been the policy in Canada to maintain an organization in peacetime capable of defending the country in case of armed attack. Such a service would require perhaps a million men in uniform, something that this country could never afford. What we paid for, and expected to get, was a small corps of trained men who, in case of emergency, would be able to train and direct the citizen soldiers. As the army expanded, this permanent force men would rise to the top. In the course of the last war, for example, permanent force sergeants moved up to become colonels and group captains and commanders.

Now it is elementary logic that if any organization that is established to expand, whose prime function is to prepare for expansion, fails to handle its expansion it is not doing the job it was paid for. What is the point in having a stand-by plant if, when it is called into service, it breaks down?

We are inclined to agree with those who say that the conditions exposed by the Currie report have been magnified out of proportion by the Tories and C.C.F.'ers for political advantage. We can't blame them too much for that. In politics you take what issues you can get and make the most of them. At the same time we have a suspicion that the Government made a tactical error in not conceding that there had been a mess and that vigorous action was being taken to clean it up. That, naturally, would have meant the firing of a general or two and the taking of other disciplinary action. This the Government hesitated to do.

What is important is not so much the mess at Petawawa itself but the glaring ex-

ample of one branch of the service not doing its basic job. Indeed, there seems to be evidence, from the defence offered, that it didn't even understand what its basic job was. If that was true of the Works Department, was it true in other departments as well and in the other services? We are not asking whether there were scandals there as yet uncovered. We are wondering whether the state of mind, the deplorable state of mind disclosed in the Works Department, might exist elsewhere in the services.

★

Easter Seals, but which ones?

ONCE again we are coming into Easter Seals time. This year readers of the Farm and Ranch will perhaps be confused by two rival requests for their support for campaigns to aid crippled children. Our own support goes wholeheartedly to the Children's Hospital Aid Society, who is sponsoring these seals:



We'll concede at once that much good will be accomplished by everyone who buys Easter Seals, but we think that the most good will be accomplished by ordering your seals from the Children's Hospital Aid Society, P. O. Box 280, Calgary. Our reasons for taking sides in this argument are simple. We are against people who try to push other people around. The Calgary women started this campaign many years ago. Every dollar they raise goes to the children; that plus \$600 a month the ladies donate themselves out of their housekeeping allowances.

A couple of years ago a much larger organization moved into the field and tried to take over the work of the Calgary women. It was typical of so many other organizations of its kind. It came equipped with a paid secretary and the usual assistants. Instead of being pushed out of the picture, the ladies fought back. That they are again distributing Easter Seals is an indication that they are going to stay in the field.

So to readers of the Farm and Ranch we say this: wherever you live, whatever you do, you can make sure that you'll lighten a whole year for crippled children by buying some seals to decorate your envelopes at Easter time. To get them, simply write to Box 280, Calgary. You don't even have to send money with your request. You can do that later.

Britain ends bulk buying

THE decision of the British government to abandon bulk purchases of wheat and return the trade to private traders means only one thing — they hope to be able to buy cheaper wheat.

From the time of the first signing of the British contracts with Canada, there has been strong opposition to bulk purchasing in Britain. The opponents have argued that the result of the contracts was to raise the cost of wheat to British consumers. The way to get the price down was to go back to the open market system.

In ordinary times, we'd admit that by reopening the Liverpool Exchange the British could hope for lower prices. But it is difficult to understand how the exchange can function in a world of controlled currencies, and where the bulk of available export wheat is handled by other government agencies. Perhaps the British, who know how these markets operate better than most, are not expecting too much. It may well be that the decision to end bulk buying is only a gambit in the negotiations now going on in connection with the International Wheat Agreement. It could be a move calculated to frighten the producers of wheat in Canada and elsewhere, and hence result in their taking a lower price than might otherwise be demanded.

Now we can concede at once that normally Canadian growers would have every cause for being concerned at the prospect of being thrown back into the neanderthalic system of futures market exchanges. But with the Canadian Wheat Board operation in Canada, and with the American government floor under wheat prices in the U.S., we don't think the British move can do much serious harm. In the kind of a world we live in, one futures market in Britain will not make much difference one way or another.

★

Flowers for the living

LIKE her thousands of other friends and admirers, we learn with regret that Mrs. Miriam Green Ellis has been forced to retire as western editor of the Family Herald because of ill-health. This is a most unfortunate development, both for the Herald and for the producers of Western Canada.

It would be difficult to name any other agricultural journalist who, through the years, has built up quite the same store of genuine affection that Mrs. Ellis achieved. She was no crusader, but she was the best reporter in practice in a difficult field — agricultural journalism. No meeting, no convention, no sale or exhibition in the West could be called complete until Miriam had arrived with her notebook. She brought to her job not only high competence but a real interest in the welfare of all her friends and took great pains to publicize even the smallest events.

The Farm and Ranch hopes that, with relief from her arduous duties, our friend's health will be regained and that she'll be able to continue to circulate happily among the people to whom she has devoted her life — the farmers of Western Canada.

Sometimes I think... The curse of this country is the black hat mentality

By JAMES H. GRAY

I'VE got a brand new theory about what's wrong with this country — we wear the wrong kind of hats. By "we" I mean the people who run the country — the members of the Canadian Government and its brain trust, the Canadian bankers and businessmen, the high-powered and high-priced corporation lawyers in Toronto and Montreal.

Stand in the Chateau Laurier in Ottawa, and watch the satchel-toting lawyers arriving from Montreal. Or stand in St. James St., in Montreal, and watch the bankers and brokers coming to work. Or walk down Bay St., in Toronto, and inspect the big-shots getting out of their limosines.

Go anywhere, stand anywhere and what do you see? A marching troupe of undertakers sucking on sour pickles enroute to the job of running the country. They are garbed in black from the black homberg to their black shoes.

That's what marks a tycoon, these days — the black homberg; the kind worn only in the west by the more expensive undertakers. That wouldn't be so bad, perhaps. But people who wear black hombergs seemingly also have to wear a funeral face. Life is real and very earnest. The problems that beset them are shattering in their complications. You get the impression, as you watch them, that if you told them a rousing western story they'd all drop dead. They take themselves seriously, that's for sure.

It takes a certain cast of mind to wear nothing but black and top it all off with a black homberg. It takes, in fact, the type of mind we have too much of in this country. The conservative type; more the ultra-arch-conservative type.

Undertaker Minds

The undertaker isn't concerned with progress, or with taking a chance on anything that is new. He's concerned with safeguarding something he's got in storage until after his charges are paid. And isn't that what's wrong with Canadian banks and Canadian business — it's cursed with the undertaker's approach?

Safety is what counts with these monetary undertakers. Only the oldest of us can remember when the last bank went broke in Canada. It seems to me that it would be a healthy thing for us all if our banks went broke oftener. That would be an indication that our bankers were doing some betting on the people of this country and the future of this country. They don't go broke for the same reason that undertakers don't go

broke — they are only concerned with providing temporary storage facilities with which there are no risks.

Now I've no hope whatever of reforming the Canadian banking system. But I can't help but wonder what would happen if a big wind suddenly wafted all the black hats clear up into Hudson's Bay. What would happen if all the bankers of Montreal suddenly decided to deck themselves out in grey and fawn fedoras, or even blue berets? And suppose they threw away their black suits and ties and went in for colored raiment. Would it then be possible for them to wear such a funereal expression? Could they still take a bilious view of their customers and their country? I think not.

It's the most natural thing in the world for the black-hatted entourage in the East Block at Ottawa to work itself into wild alarm over the newest crises. When you insist upon dressing like an undertaker, your attitude of mind takes on a sombre cast. So things that should in normal people evoke only the most raucous laughter, moves the black hats only to tears.

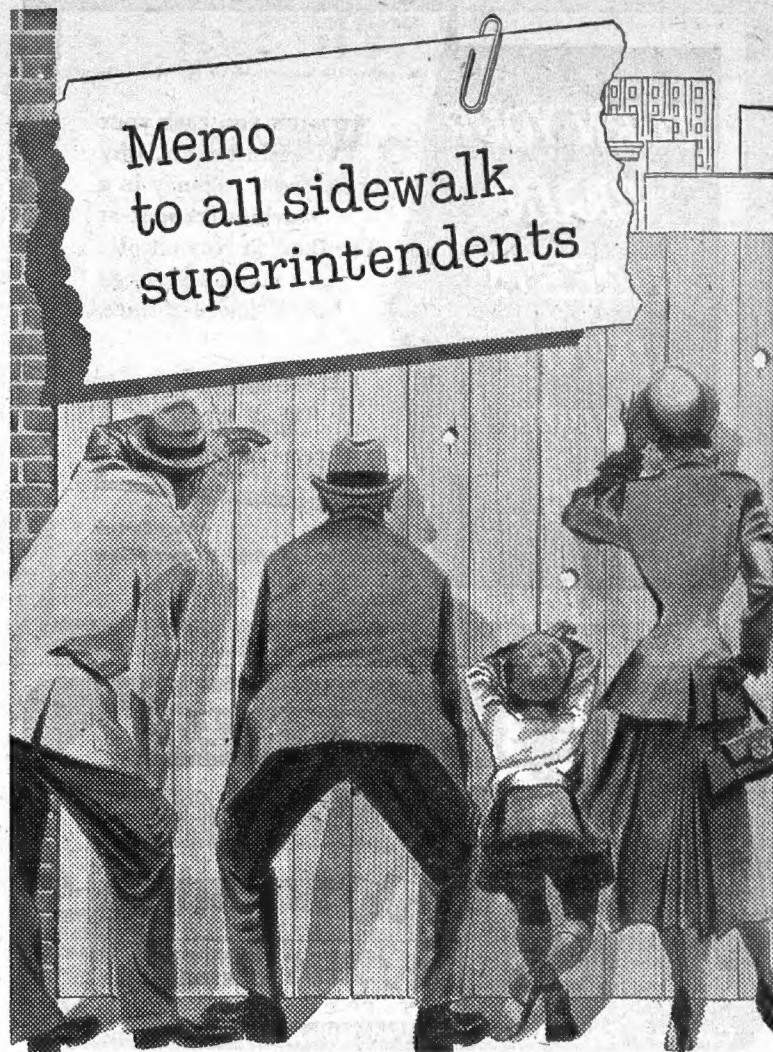
Only a Shadow

Small wonder then that Ottawa is always up to the rim of its homberg in a nerve shattering crises. The world has never had such a problem to solve! They wring their hands and ask each other whatever in the world can be done. The answer, naturally, is nothing; for most of the time there is no real crises. It's just the shadows cast by endless processions of black hats across the face of the land.

What this country needs most isn't a good five-cent cigar after all. It needs a law to ban the use of black hats in Ontario and Quebec. Once we get our leaders out of their undertaker's headgear, this country will really start to roll. But until we do something about their hats, we'll stay stuck in the mud.



"When are you folks going to recognize that your boy is no longer a baby?"



Next time you watch a construction job, remember — *you may have a closer connection with it than you think!*

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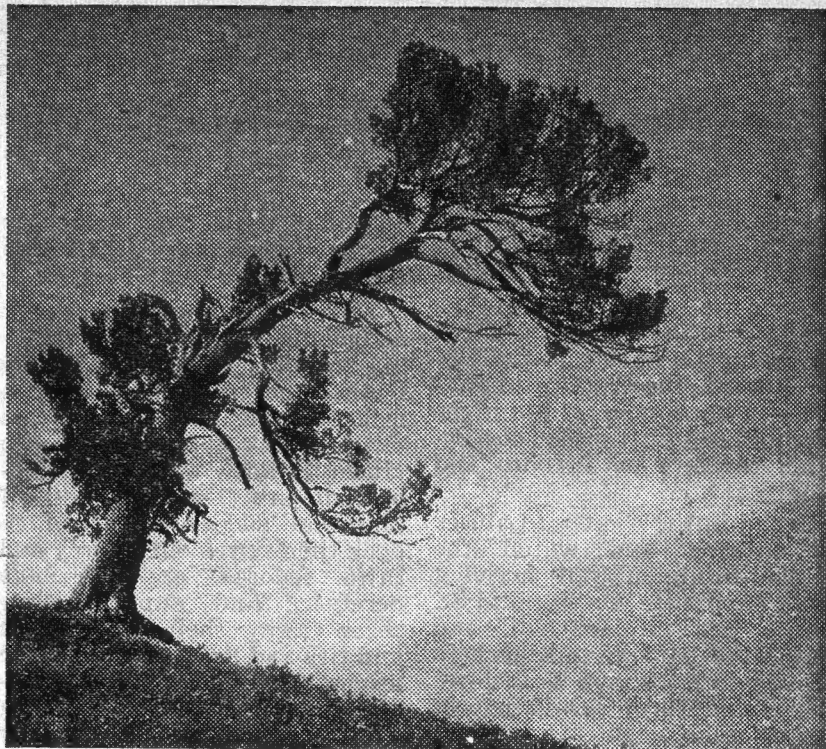


Photo by Richard Harrington.

Soil fertility past and present

By JOSEPH PAUL

SUCH practices as liming the soil, rotation of crops and the application of natural manures are hard to trace to their origin, as they go back through the history of ancient civilizations. By way of contrast, the development of agricultural chemistry as a means of accounting for some of the relationships between soil, crop, and climate has taken place in the relatively short span of 350 years. Within that period scientists have employed various methods, depending on the times, to prove in turn that plants derived the substance of their growth: from water; from air; from heat; from taking up minute particles of soil; from the combined sources of air, water and mineral compounds in the soil.

Amid the confusion of theories and observations that were woven in and around these successive stages of scientific thought the following statement marks an important milestone:

"Agriculture is, of all industrial pursuits, the richest in facts and the poorest in their comprehension. Facts are like grains of sand which are moved by the wind, but principles are the same grains cemented into rocks."

Baron Von Liebig recorded that opinion in 1859 as he was proceeding to use his vast knowledge and persuasive arguments to cement the "facts" of chemistry into principles of soil fertility.

The most significant part of his principles are summed up in his theory that "The crops on a field diminish or increase in

exact proportion to the diminution or increase of the mineral substances conveyed to it in manure." This principle was considered to apply to the elements calcium, phosphorus, and potassium. The nitrogen in plants was considered by Liebig to be derived from the air.

He had demonstrated, to his own satisfaction, that nitrogen of decaying plant and animal remains was given off into the air in the compound ammonia. This gas, being very soluble in water, was brought back to the soil solution by rain and snow.

Liebig's findings regarding nitrogen were the first to be seriously challenged. They were partly discredited by the discovery that plants of the legume family could use nitrogen of the air with the help of colonies of bacteria on their roots. Others were beginning to demonstrate that certain compounds of nitrogen could be added to the soil as fertilizers and that nitrogen compounds formed in the soil by the breaking down of humus could be used by plants.

Thus the trend of thought changed and nitrogen was regarded as one of the most important elements in soil fertility. The popular theory regarding its supply could be summed up as follows: Crops make heavy use of nitrogen, a 15-bushel crop of wheat removing 18 lbs. per acre in the grain alone. This would have to be replaced to maintain soil fertility. Small amounts are added by rain and snow dissolving the ammonia from the air, — this amounts to about 5 lbs. per acre per year. The balance must be added to the soil in the form of organic manures or nitrogenous fertilizers or by growing legumes.

One other source of nitrogen has long been recognized and given passing mention. The "Ugly as of slight importance. Duckling" It seems certain bacteria in the soil are able to use nitrogen from the air without the aid of legumes. They build it into compounds which add to the soil's fertility. Although this source of nitrogen supply has received no active attention in most countries, investigations have been carried on in the United States; and statements may now be found in highly reputable sources giving further information on this matter.

The amount of nitrogen added to the soil by direct action of bacteria appears to vary greatly under different soil conditions; but an average of about 25 lbs. per acre per year is considered a fair estimate. Furthermore, it appears the process is most rapid in soils which are low in organic matter.

This provision of nature should more than replace the nitrogen used under dry land farming in the prairie region. It might also maintain or improve the nitrogen supply in soils of the more humid districts when added to the amount which can be returned to the soil by crop residues, manure, and the use of legumes. The importance of a process which adds 25 lbs. of nitrogen per acre to the soil each year can be appreciated when one considers that it would take \$5.00 worth of 21-0-0 fertilizer or \$13.00 worth of 11-48-10 fertilizer per acre to supply the same amount.

The development of knowledge in connection with this process is of tremendous significance although it is far from complete. The facts developed so far were presented in the U.S.D.A. year book of 1938; but so far they have been greeted by soil scientists the world over — with silence. They have failed to influence the drafting of information regarding the need of nitrogen in commercial fertilizers. However, reasonable grounds have been re-established for the belief that the supply of nitrogen in the soil can be maintained and in some cases increased by the use of commonly recognized good practices of tillage and cropping.

This belief is strangely the same as that held by Liebig, but some of the scientific evidence upon which he based his views has been discarded.

Now let us follow some of the developments related to Liebig's statement that "The crops on a field diminish or increase in exact proportion to the diminution or increase of the mineral substances conveyed to it in manure."

The first notable attempt to challenge this "principle" was around 1905 when Prof. Whitney as Chief of the U.S. Bureau of Soils, and Dr. Cameron as

Chief Chemist of the Bureau, received wide publicity for their views which are briefly stated in this passage from one of their bulletins:

"It appears further that practically all soils contain sufficient plant food for good crop yields, that this supply will be indefinitely maintained, and that the actual yield of plants adapted to the soil depends mainly, under favorable climatic conditions, upon cultural methods and suitable crop rotation."

These views were regarded as unorthodox and irrational by the majority of soil scientists. Opposition was so general and so strong that Whitney and Cameron were discredited although their claims were apparently put forward in good faith and with the support of some considerable amount of scientific research.

It is likely that some influence of their work would have survived but they were tempted, by heated opposition, to make statements which appeared more irrational, for example the following: "The soil is the one indestructible immutable asset that the nation possesses. It is the one resource that cannot be exhausted; that cannot be used up."

Liebig's "principle" has also withstood the later attacks from a large number of people who have unofficially adopted the label of "organiculturists". Although this group includes many well informed and capable people, their views have not been taken seriously by the rank and file of soil scientists.

The organiculturists hold that soil fertility can and should be maintained by skilful cropping and use of natural substances such as limestone, manure, and compost, untreated by chemicals. The soil scientist dismisses this view by agreeing completely and adding that no system of farming produces enough manure and compost to balance the requirements of the soil. This argument seems too "smug" to be entirely satisfactory, but for the time being it holds the fortress of research institutions secure.

The most important challenge to Liebig's "principle" will have to be dealt with in another article.



"Then the motion is passed without a dissenting vote."

A THREAT TO CANADA'S PROSPERITY

Buying Power of Dairy Farmers Reduced Sharply by Slump in Prices

MILLIONS OF DOLLARS have been slashed from the purchasing power of Canada's dairy farmers by the drop in prices received for dairy livestock and dairy products in 1952. As much as \$50,000,000 is estimated as the loss in purchasing power of these primary producers—money which, if available, would have been spent on goods and services, the products of other Canadian industries.

This is drawn to your attention because anything that affects the economic welfare of a large segment of Canada's population adversely, eventually affects the welfare of the entire people—you, your friends, your neighbours.

What Happened in 1952

Sharp price drops started early in 1952, without compensating recessions in the cost of production, thus starting the contraction in buying power. By mid-year, at the time of peak production, the average price of all farm milk had dropped by 10.2 per cent and the price of cows and calves sold for meat had tumbled more than 36 per cent. At the same time cost of production, as indicated by the index of goods and services used by farmers, instead of dropping actually rose by 5.9 per cent.

Who Has Been Affected

The first group to feel the effect of this income recession is the 1,820,000 persons on Canada's 455,000 dairy farms. These primary producers, together with 460,000 persons such as hired farm workers, dairy factory and milk distributing plant employees and others directly associated with the industry constitute one-sixth of all Canadians, and their industry ranks third among Canadian industries.

Canada's dairy farmers, by milking cows 365 days in the year, early in the morning and late in the day, produce more than 16,000,000,000 pounds of milk in a year. In 1951, the cash income from milk sold off the farms was \$373,611,000. Dairy cows and calves sold for breeding and meat purposes are estimated to have brought the cash income from dairy herds to a total of \$475,000,000.

How Producer Groups Feel the Pinch

Farm milk prices, already low in relation to other foods, began to sag in March and continued downward through the peak production period of the spring and early summer. Throughout this period cost of production continued upward. Some groups of producers were hit harder by price drops than others, depending on their market. Only the producers selling on the fluid milk market escaped price setbacks. The price of their milk, which accounts for 26 per cent of production, increased by 6.1%, the rise barely keeping pace with increased production costs.

Thirty-six per cent of all milk produced in Canada is sold for creamery butter production—the price of this milk dropped 10.3% from the average for 1951. Eight per cent of the milk is sold for manufacture into evaporated and powdered forms—milk for this purpose slumped 16.2%. Nearly 7 per cent of the dairy farmers' product goes into dairy butter where prices dropped 5.6 per cent. A similar amount goes into cheese—cheese milk slumped 34.7% then recovered about one-half of the price loss in late months of the year. The balance of the milk produced is used on the farm for livestock feeding and household purposes.

How Consumers May Be Affected

Canada's farmers, through lower food prices, are carrying the burden of the decline in the cost of living index, that has been reported in recent months by the Dominion Bureau of Statistics. Unless declines in living costs are shared by all forms of production and services, sharp changes in volume of production are bound to take place.

Present availability of dairy foods is largely responsible for Canada's high standard of nutrition because milk is a low-cost source of protein, vital minerals and vitamins. This can continue only so long as dairy production is on a scale that ensures continuity of supply for the people of Canada.

How Employment May Be Affected

More immediate than the effect of prices on supply, is the effect on employment. The dairy farmer is a major market for both producer and consumer goods. When he is forced to curtail his purchases through loss in income, the market for a wide range of goods and services is curtailed. This leads to unemployment of, or loss of income to, persons in practically every walk of life. Few can escape the impact of a sharp and wide-spread loss of net income by a group as large as Canada's producers of dairy products.

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Livestock improvement lags behind everything else

By J. G. STOTHART,
Dominion Experimental Station, Lacombe, Alberta

ABOUT 40 years ago the development of Marquis wheat by the Dominion Experimental Farms opened a new era in Western Canada. By the simple experience of having a high quality milling wheat which mature a few days earlier than any other wheat of equal quality at that time, the whole history of Western Canada was changed. And yet, very few raise Marquis wheat today! Why? Because there are better wheats available; wheats which are as high in quality as Marquis, will yield more than Marquis, and will mature from 7 to 10 days earlier than Marquis, under most conditions.

How has this been made possible? Simply by the application of scientific breeding and testing methods to cereal breeding and the use of the new varieties by farmers. The word "simply" at the start of the last sentence is misleading because the process is far from simple; indeed, it involves careful planning, conscientious research and extensive testing before a new variety is released for general use. It is a continuous process and one which is being followed by many Universities and Experimental Farms, not only with cereals but other field crops as well.

What progress has been made in animal breeding during the same period? To start a real argument one might say, very little, but this should be tempered by saying that the improvement in livestock has not been marked.

The last statement will, of course, be contested and in all fairness it should be stated that there are some qualifications and exceptions. In the first place it must be admitted that animals are considerably more difficult and more expensive to experiment with than are cereals and forage crops. This has been a serious drawback to animal breeding research. In spite of this handicap, certain breeders have made notable improvement.

Unfortunately, however, there is little evidence to indicate that the average efficiency of our animals is any better today than it was, say 20 years ago. Management and feeding have improved and have led to greater efficiency but it is doubtful if the genetic make-up of our animals today is better. Better in the same sense that the genetic make-up for yield and earliness is better in Thatcher wheat than it is in Marquis.

Selection is the crux of the whole problem. Only by choosing for breeding those animals that are superior can any real genetic improvement be re-

alized. The cereal breeder relies on extensive tests comparing, under a wide range of conditions, the new varieties with those already in use. After several years of such tests, he is able to prove the superiority of certain strains which are then released and recommended for use. But the performance test is the basis for selection.

Livestock breeders may also use performance tests in their selection program. In Canada we have nationally recognized and supported Record of Performance policies for dairy cattle, for poultry, and for swine. Breeders may enter their livestock on these tests and obtain information enabling them to distinguish between the top producers and those of mediocre ability.

Unfortunately, only a small percentage of the breeders in this country make use of these testing facilities, and, except for the prominent part played by R.O.P. records in the breeding programs of some dairy cattle breeders, relatively little attention is paid to performance. Instead, a great deal of emphasis is placed on showing winnings.

This problem is rendered more acute by the fact that livestock raisers in Canada (in other livestock producing countries as well) have depended on a relatively few breeders to supply the seed stock for improvement. The fact that the number of these men is small may be an advantage in some respects, but it increases their individual responsibility. If their stock does not improve, there is little chance of general improvement in the country.

The basic standards of showing conformation are related to utility. With meat animals, for example, the square, blocky conformation with strength and fullness in the expensive parts of the animals are standard requirements and are related to carcass excellence. How close some of the breed idiosyncrasies or fads are associated with efficiency is, however, open to question. Take, for instance, the trend to and from the "pony" type beef animal. Is there anyone who can say that this type can be produced cheaper than the more upstanding rangier animal? Some evidence indicates the latter to be the more efficient convertor of grain and roughage into beef. Fairly recent results from the United States indicate considerable promise in the use of performance with beef cattle.

Again take the trend to the short-nosed hog. Not so long ago a large proportion of the hogs in Canada were quite

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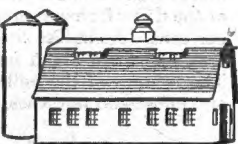
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rapidly changed to short-nosed hogs because there was a fad among the purebred breeders for short-nosed pigs and the pigs which were winning in the show-ring had short noses. The experimental and research institutions were just as guilty in this case as anyone else.

However, there was absolutely no relationship established, before this trend began, to indicate that the short nosed hog was more efficient—would make more dollars for the farmer who raised him or a better product for the consumer to use. It has been shown since that the opposite is almost the case. Fortunately this trend did not last long but it is a glaring example of how a show-ring fad can influence the type of animal raised by a large number of farmers.

Before someone concludes that the writer is against shows, let me hasten to say that such is not the case. Shows and exhibitions have in the past and will in the future do much for the livestock industry. The point I would like to make is simple. It is that records of performance should play a bigger part in show-ring standards. With mature animals in particular, a pre-requisite to entry in the show-ring should be a proven capacity for economical production and/or reproduction.

Then the judge would be faced with the task of placing a number of animals according to his experience and conception of breed type but all the animals would have demonstrated their individual capacity to produce efficiently or to reproduce offspring which would produce efficiently. The winning breeders would be rewarded by being able to advertise and sell breeding stock which combines beauty, conformation, type, etc., with utility. The buyer would also have some assurance that a show winner would also be an improver. Is it not reasonable to expect that future generations based on this proven performance for type and efficiency would be better?

The dairy cattle breeders include records of performance in their show-ring standards, but in most cases not as a pre-requisite but more as an afterthought. Many prize lists provide for extra prize money if an animal happens to have a record. Some shows have special classes for Advanced Registry hogs but here again it is somewhat as an afterthought rather than placing the main emphasis on tested hogs.

The cereal and poultry breeders have recognized the fact that there is little or no relationship between show-ring beauty and utility. Marquis often wins the World Championship in wheat, yet it is doubtful if 5% of the wheat now grown in Canada is of this variety. Reward has often won the World's Championship, yet Reward is admittedly one of our poorest yielding wheats.

If, for example, Reward had been grown in place of the approved varieties in Canada this year it would have meant a loss to Canadian farmers of at least \$100,000,000. Fortunately the variety which wins such championships does not receive the same publicity that a boar or bull does which wins a championship. Also, fortunately, the wheat farmer is very much in the know as to what variety will yield best under his conditions. The same cannot be said for the livestock farmer. He buys a boar or bull and it is a considerable gamble whether said bull or boar will improve his herd or not. Here improvement is not thought of in the sense that the bull or boar might produce better looking offspring but rather that his offspring would produce more pounds of marketable product on less feed.

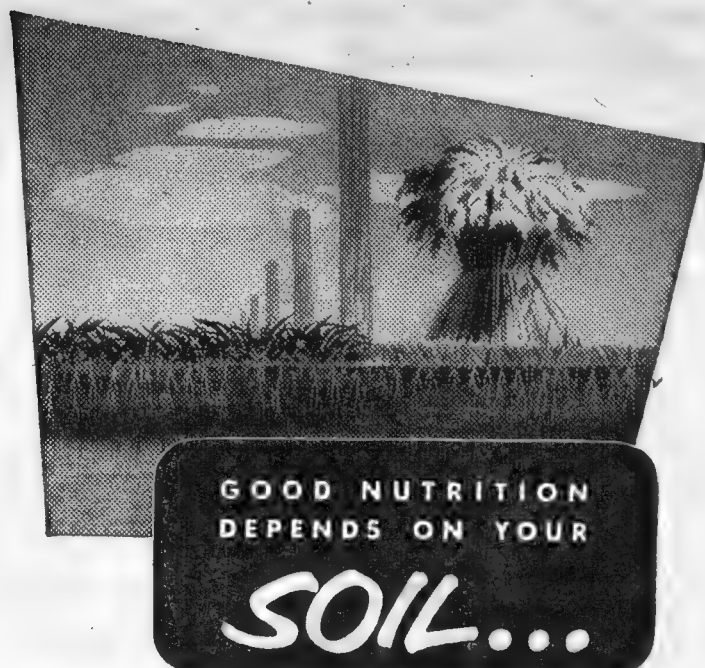
Show-ring championships too often reflect how clever the exhibitor is in preparing the exhibit rather than the breeding worth of the exhibit. If an aged bull, boar, ram, cow, sow or ewe were required before entering the show-ring to have proven their ability to produce offspring which would grow rapidly or produce well on less than the average amount of feed, or if young animals had to be offspring of such proven parents, the type which would evolve would be the right type and the general performance of all animals would eventually improve.

Livestock breeders and raisers need to become fully aware, as the grain farmer is aware, of the importance of using seed stock of proven ability to produce.

Livestock breeding research is in its infancy but information is coming to hand continually to indicate that performance is heritable. It seems reasonable to assume therefore, that if animals that perform better than average, or are the offspring or close relatives of animals that perform better than average, are consistently and systematically chosen as breeding stock, the average performance and efficiency of livestock will improve.

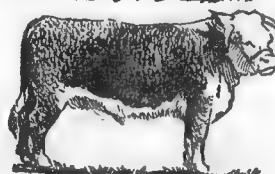
The Experimental Station at Lacombe is conducting extensive breeding experiments with swine to study methods of improvement. The growth and feeding characteristics of beef cattle are also under investigation. More information is needed but in the meantime it is suggested that livestock breeders pay more attention to performance and to selection on the basis of superior records.

A study shows the per mile cost of driving on a paved road is just one-half that of driving on dirt. It costs 3.8 cents per mile on a paved surface, 4.5 cents on gravel and 7.8 cents on dirt. — U.S. National Grange Monthly.



Soil fertility is a large factor in determining feed quality. A good nutrition program, therefore, is based on good land use... employing fertilizers, crop rotation and conservation methods. When your soil is deficient in certain minerals, your crops also lack them. This in turn means you use more supplements with your home-grown feeds if you are to achieve high production.

Today's hens are bred to lay over 200 eggs annually; turkeys to reach market weight 2 to 3 weeks earlier. High quality, balanced rations are needed to realize these potentialities.



Due to modern feeding methods, 15,000 lbs. of milk a year per cow is becoming common; as is a 2.5 lb. gain per day for steers. Although steers and cows are basically rough-age converters, high quality supplements need to be added to their diet, if your herd is to meet these high production standards.

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The Alberta Government designs and helps to construct laterals for smaller irrigation districts erected under the Irrigation Districts Act. Irrigation Districts at Macleod and Ross Creek have been assisted. The Alberta Government has spent more than \$4,000,000 on the St. Mary and Milk Rivers Irrigation Development, and expects to spend another \$3,750,000 on this beneficial project. Distributory Canals are also planned for the Bow River Irrigation Development.

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Dame fashion is blamed for the rabies outbreak

By BERYL RASMUSSEN

THE trend of fashion and women's taste in furs is being blamed for the outbreak of rabies. If Canadian women would only wear long-haired furs like the women of Europe still do, the foxes and wolves would then be hunted for their pelts. They would not have multiplied so that it was necessary for them to journey to the southern reaches of the North West Territories and Northern Alberta for food.

Foreign exchange controls prevent us shipping these furs over to the European women who would wear them. Canadian women prefer the mink, muskrat, seal and, of course, rabbit under their more glamorous labelling. For in Canada, at least, fur farming has become a part of agriculture, and one of the oldest industries known to man—the trapping of wild animals to obtain furs is growing more and more extinct.

Our furs needed for coats, capes and chokers are nearly all home grown and home produced. For this reason the foxes and wolves have multiplied until they have reached what is believed a cycle in their population, and with the outbreak of rabies the disease has become a serious menace to Canada as a whole.

How, when and where rabies

started is an obscure mystery. On the walls of the subterranean dwellings of the cavemen of Ancient France, and on the clay bricks of old Babylon are inscribed figures of men and dogs in the tortured throes of convulsion. There are descriptions of it that date from Aristotle's time; references are made to it in the Latin treatises of the Middle Ages. Superstitions and fallacies were many as to its causes. Hot weather, raw meat, or even the changes of the moon were all cited as causes for "mad dogs". The cures were as varied, one of them being to cut the dog's tail short.

Modern medicine, however, has relegated all these theories to myths and fables and we know now, that rabies are caused by a microscopic virus, which is found in the saliva of the afflicted animal. The virus is contagious, in that it can enter the system of the second party through an abrasion in the skin. It slowly makes its way along the nervous system, where it finally attacks the spinal cord, and then reaches the brain where it causes paralysis and death.

All animals are liable to infection, but where 90% of the cases used to be confined to dogs, modern vaccination has brought this so much under control that we in Canada, find it hard to be-

lieve that it is on the rampage. Cats, hogs, cattle, as well as wolves, foxes and skunks all can suffer from the disease and spread it to man where it is called "hydrophobia". Several years ago, in one of the mid-western states, rabies was so prevalent among skunks that residents referred to that breed of skunks as "the hydrophobia skunk". Infected cattle alone cost Texas cattlemen only a few years ago \$5,000,000 annually.

Two Types

There are two types of rabies, the dumb and the furious. They are well named for with the former, the dog if diseased suddenly becomes quite ill, his body paralyzes and he dies quietly. Because the animal stays quietly in one place the number he could infect is limited. However, his saliva is full of the deadly virus, and if he should lick an open abrasion on anyone's hand, hydrophobia would follow.

The furious rabies is much more dangerous and horrible. The first symptoms are depression, restlessness, irritation and sullenness. The dog slinks in dark corners as if the light bothers him and will snap at bright objects which pass his way. Gradually he becomes excitable and will chew or eat anything even rags, stones, wood, etc. His voice changes pitch and he stares blankly. In the latter stages the animal is overcome with a desire to move and runs on, and on biting everything in its path. Dogs have been known to run for over a hundred miles, biting and infecting everything in their path.

Quick Report

If a person is bitten by a dog, he should report it to the nearest police and see that the animal is taken to the nearest veterinary for observation. It generally takes about ten days to determine whether or not a dog is rabid. It takes at least three weeks for the virus to work on the human system and as long as two months, depending how close to the brain the bite was. A foot bite would take the longest, but a bite on the face or neck should be treated immediately. If the dog reveals

Record shipments

THE Canadian National Railways set a grain-handling record during the calendar year of 1952, J. R. McMillan, vice-president of the C.N.R.'s western region, said in an interview here today. To establish its all-time record, the C.N.R., in 1952, transported 339,440,000 bushels of all grains from country elevators in 176,258 boxcars, or enough cars to make a single train 1,335 miles long, he added. This heavy grain movement was 76,201,000 bushels greater than in 1951, and an increase of 38,259 in the number of carloads.

a rabid condition the patient is given the Pasteur treatment, which is a method of inoculation developed by a Frenchman of that name. This consists of two injections a week of a serum prepared from the brain of a rabbit.

Last year the prompt efficient action of federal and provincial authorities, stamped out the foot-and-mouth disease which menaced the livelihood of the Saskatchewan farmer. With the outbreak of rabies, though they face a much tougher proposition. The disease has spread in the last six months, 80,000 square miles south to Peace River and even across into Saskatchewan at La Loche. It has spread within 175 miles of Edmonton and into the settler's farmyards, and for the first time in recorded Canadian history, heavy losses are being reported of domestic stock from Keg River, south of Fort Vermillion.

Federal and provincial authorities who are now alive to the menace, are doing their utmost, but in such a vast area it is a different task. Forest rangers, mounties and trappers are trapping, poisoning and shooting wild foxes, wolves and coyotes. Over 6,000 poison traps have been set out in far northwestern Alberta. They are distributing sodium cyanide pellets, and strychnine cubes in baits of meat to tempt the wild animals. A ban has been placed on the movement of dogs north of the 55th parallel in the prairie provinces, and the vaccination of all dogs within reach is being completed. In the area so settled that school buses are used, the drivers have been given instructions to carry guns and shoot on sight foxes and wolves.

A vigorous and concentrated effort will be necessary to stamp out this disease, and perhaps because we have been free from it so long, as in the case of the disease which broke out in Saskatchewan, the authorities were a little slow in realizing the dangerous potentialities of the disease six months ago, when it was first reported.

Let us hope that the measure that they are taking will have prompt success, for the pioneers who have settled on the borders of civilization deserve every help to keep their livelihood, and rabies is as dread a disease in every way as the foot and mouth was. Perhaps more so, in that it also endangers human life. Extinction is probably the only method to control both rabies and the increasing population of these animals whose fur is no longer sought in the fashion world. For the trapper is disappearing from northern Canada and may well at some future date join the hunter and fisherman in the realm of sport.

The government of India has purchased 60 million acres of land in Uttar Pradesh state from 400 absentee landlords and sold it to about 13 million peasants. The peasants paid ten times the annual rental for the land.

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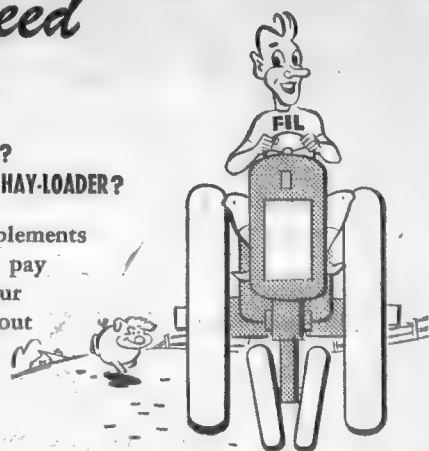
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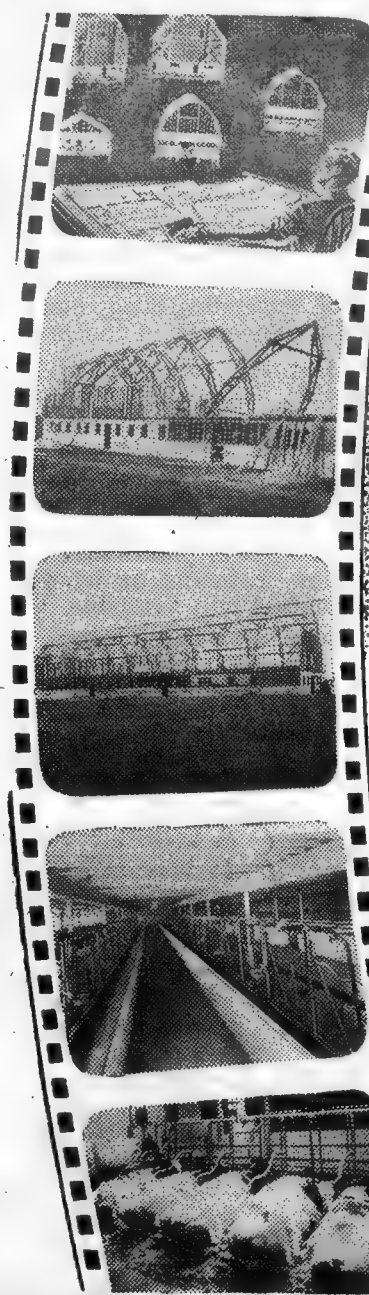
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This is why the Royal Commission rejected the Sask. River project

The following is a partial text of the findings of the Royal commission on the South Saskatchewan River development. The commission turned thumbs down on the project. Our comments on this report will be found on the editorial pages of this issue.

1. Postponing construction of the South Saskatchewan river project, including a proposed mile-and-a-half-wide dam 70 miles south of Saskatoon and a 135-mile-long artificial lake sweeping back to the Alberta border.

2. Review of the project as possible relief for unemployment in time of depression or when the area becomes so heavily populated that big markets for high-priced food products may make the project profitable.

3. Development "without delay" of a comprehensive, long-range program for the most beneficial use of the Saskatchewan River from its headwaters in the Rocky Mountains and Montana to Lake Winnipeg in Manitoba and through the Nelson River to Hudson Bay.

4. The federal government should take the lead in developing and co-ordinating the Saskatchewan River basin program and try to resolve legal and constitutional angles involved and the conflict between those who want the river for irrigation and those who want it for power.

5. Water-short Regina and Moose Jaw might be assisted by pumping water from the nearby Saskatchewan into the Qu'Appelle river valley, raising the level of Buffalo Pound Lake which feeds waters to the two cities and other communities. The federal government is already committed to help maintain water supply in this area. Irrigation for some 30,000 acres in the valley should be considered.

6. Wherever feasible, pumps should be used to help irrigate lands within reach of the South Saskatchewan in central parts of the province.

7. A diking and drainage scheme should be undertaken to reclaim 100,000 acres of rich delta land in a triangle west of The Pas, Man., and known as the Pasquia project. This would be the first step in further reclamation of the 4,000,000-acre delta which runs across the border into Saskatchewan. Cultivation of this land would be of "crucial importance in the industrial and mineral development of Northern Manitoba and Saskatchewan.

8. Explore the possibility of extending the Red Deer project into Saskatchewan. The Red Deer project proposes irrigation for some 500,000 acres in an area between Calgary and Edmonton.

9. Study of possibly providing more water on the south branch of the Saskatchewan by diverting water from the north branch above Rocky Mountain House in

Alberta, about 90 miles southwest of Edmonton.

10. Study of the impact of current and future irrigation projects in Alberta and Saskatchewan on downstream power production on the Saskatchewan and Nelson Rivers. Linked with this is the possibility of diverting waters from the Athabasca and Churchill Rivers to help overcome any loss to power projects.

11. Continued study of ways of watering the 15,000,000-acre dry core of Palliser's triangle, the dust bowl lying across the Alberta-Saskatchewan border and one of the driest lands in all Canada.

Linked with the giant South Saskatchewan irrigation project was the proposed development of a 150,000-horsepower hydro scheme at the damsite at Outlook, extending cheap electricity to a wide area in the province.

But the commission, headed by Dr. T. H. Hogg, 68-year-old Canadian engineer and former chairman of the Ontario hydro commission, found that Saskatchewan's needs could be supplied almost as cheaply through steam power plants located near cities or towns or where low-cost fuel was available.

Other commission members were G. A. Gaherty, president of Calgary Power Ltd., and Montreal Engineering Ltd.; and Dr. J. A. Widtsoe, prominent U.S. irrigation authority

from Salt Lake City, Utah, who died last November at the age of 80, a month after signing the report.

Saskatchewan's hopes for the giant project quickened when the federal Prairie Farm Rehabilitation Administration, with the blessings of Agriculture Minister Gardiner and the Saskatchewan government, began an engineering study in 1943.

This study eventually cost about \$3,000,000. The commission disagreed with most of its findings.

The P.F.R.A. envisioned one of the world's greatest dams springing out of the dust bowl — 1½ miles wide at its crest and a half-mile wide at its base, standing 210 feet high and filled with some 35,000,000 cubic yards of earth.

The area to be irrigated would cover some 450,000 to 500,000 acres — the commission said 455,000 — along a 50-mile stretch between Outlook and Saskatoon.

The area which now holds about 1,245 farmers would be able to hold another 1,455, bringing the total to about 2,700.

The P.F.R.A. envisioned a second, smaller dam controlling the water flow into the Qu'Appelle River for water-short Moose Jaw and Regina. It envisioned a 135-mile-long lake, a reservoir holding enough water to cover 6,765,000 acres of land one foot deep. It also would be an ideal tourist attraction for fishing and boating.

But Alberta wondered what right Saskatchewan had in harnessing a river which ran through Alberta and whose waters would be lost to that province. Manitoba feared the Saskatchewan water loss would reduce her hydro potential on the Nelson by some 400,000 horsepower, thus dis-

couraging industrial growth in the north.

"... The development must have regard to the rights in the river system of interested parties in Alberta and Manitoba," said the commission.

The P.F.R.A. also ran smack against the economists. The commission reluctantly accepted the P.F.R.A.'s choice of a site, even though it found no real rock foundation there, but it quarrelled with the P.F.R.A.'s estimate of costs.

The P.F.R.A. estimated the project would cost \$103,700,000, but the commission said it would cost more than twice that — possibly \$250,000,000 — and would tend to place "too great a burden on the land or on the farmer."

The commission figured if \$30,000,000 were deducted for the power project and \$20,000,000 for social and other benefits that might result, the cost of irrigation would still amount to about \$70,000 for each farm unit.

On the basis of federal-provincial

division of costs in the Alberta St. Mary's River project, the South Saskatchewan costs would be borne 100,000,000 by the Saskatchewan government and the remainder, \$150,000,000, by the federal treasury and taxpayers across Canada. Experience showed that the farmers themselves could supply only a nominal part of the costs.

Since the project would be carried at a loss, the deficit at the end of 35 years would amount to \$310,000,000, the commission estimated.

It would take between 35 and 50 years — two generations of irrigation settlers — before full use of the project could be made.

Not only that, but the commission wasn't too sure that irrigation was the best thing in all cases.

"In Alberta," it said, "the increased productivity arising from irrigation seems to have been consistently exaggerated.

"This is doubtless due to the failure to realize the economic progress in irrigation farming is limited by the growth of markets for the products in the irrigated farms.

"This is an error in timing, an error that leaves out of account the slowness of market growth which, in the nature of things, is limited by the pace of population growth in Western Canada."

The Saskatchewan project would be at the fringe of the really dry Prairie spot. Farmers would have a choice between irrigation and continuing dry farming.

Some dry farmers were doing all right, and, said the commission, it was not a function of government to tell them that they must change to irrigation.

"Green vegetation is not necessarily a sign of a high standard of living; nor does dry farming necessarily mean a low standard.

"The irrigation farmer and the wheat farmer each has his place in our economy."

It was true that Prairie farmers feared a recurrence of the great drought of the 1930's, with dried, burned-out crops and parched cattle.

But at the most, the southern and northern branches of the Saskatchewan could irrigate only about 3,000,000 acres, and about one-third of these are either already irrigated or will be in projects now being planned.

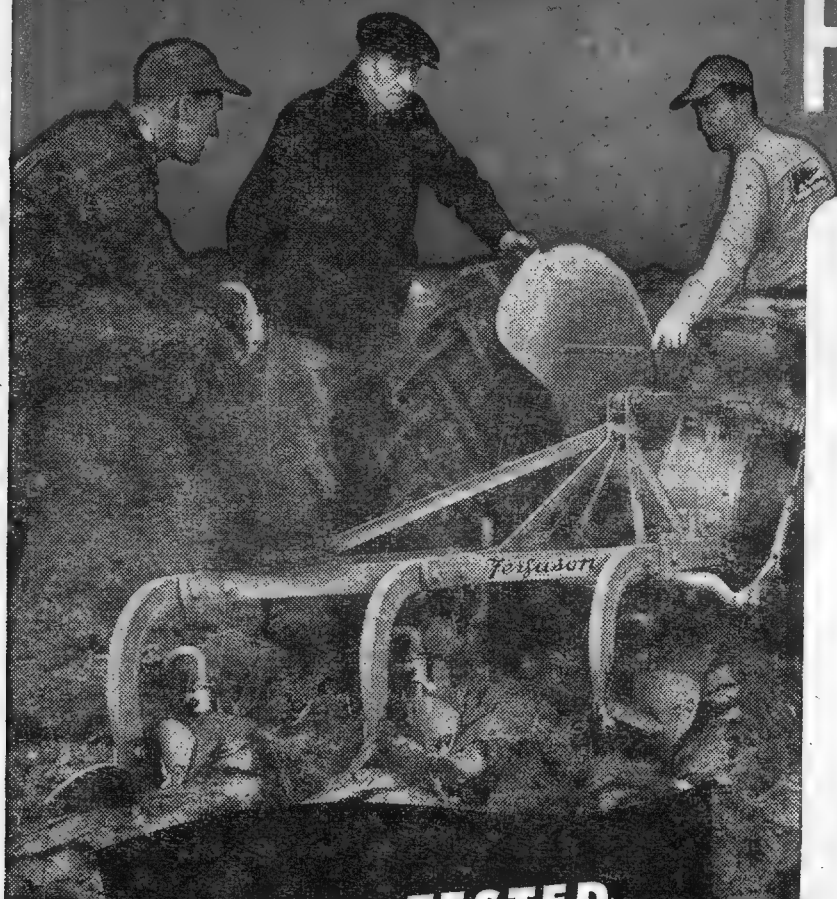
That would leave only another 2,000,000 acres which could be watered. And the heart of the Palliser's triangle, the land that needed water most, held 15,000,000 acres of parched earth.



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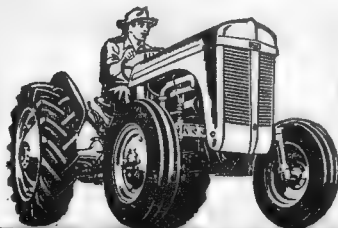
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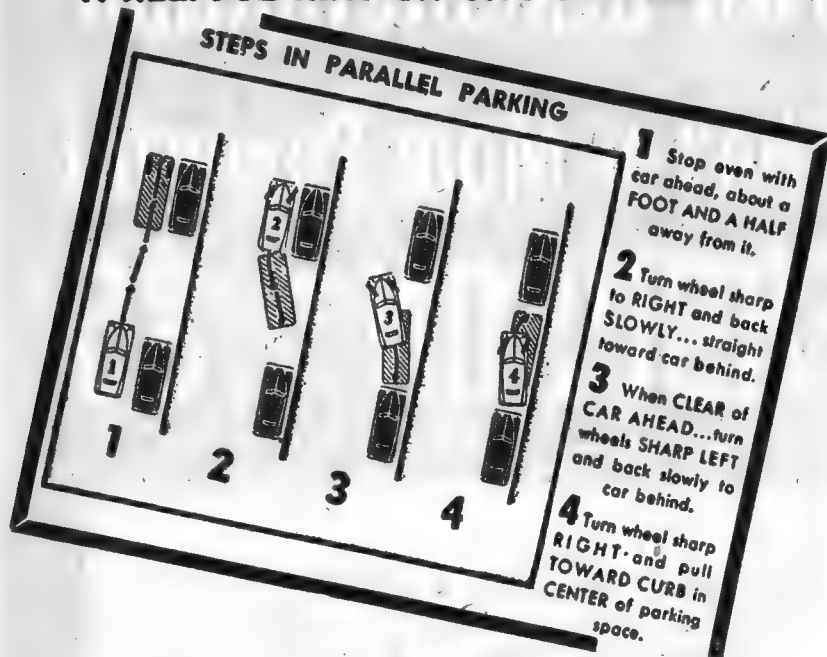
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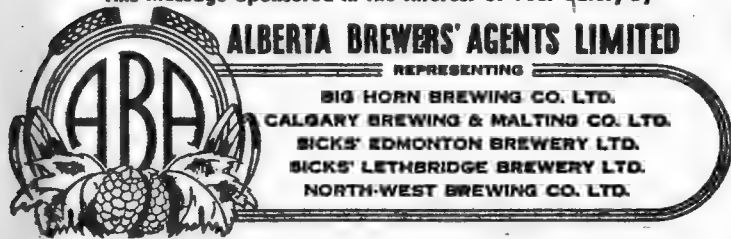
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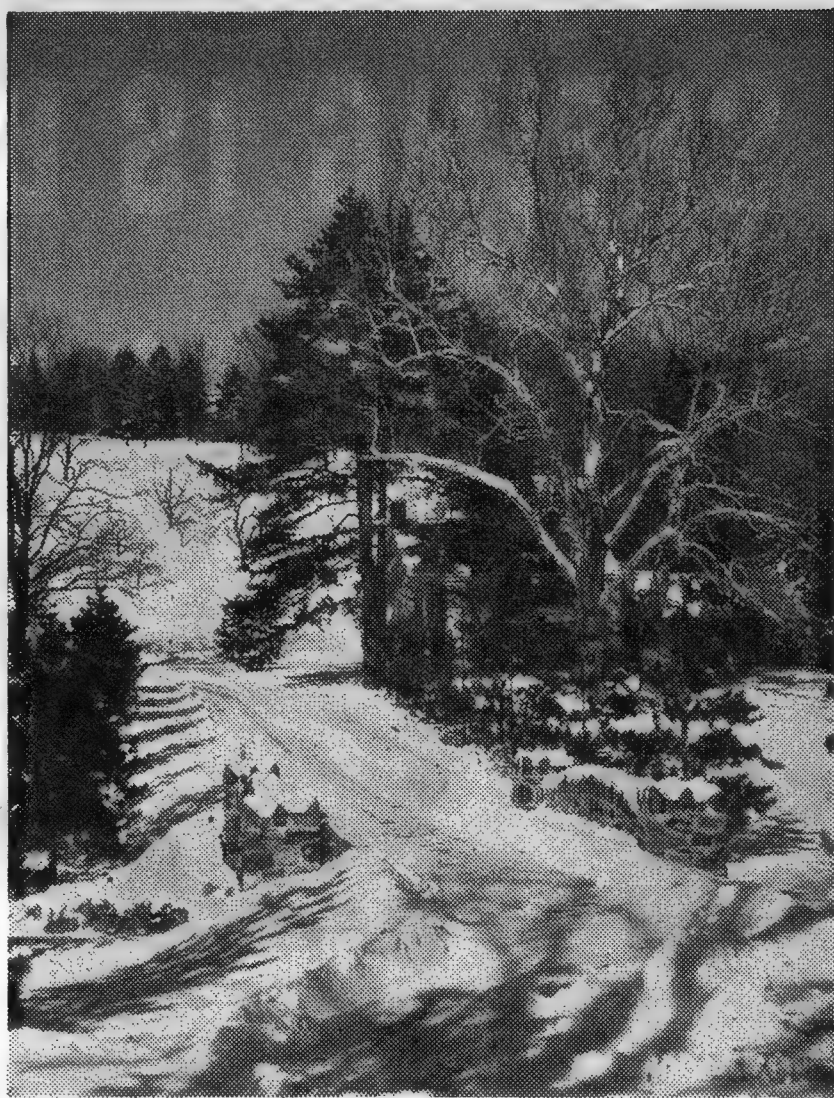
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Some margarine facts they aren't advertising

(One of the claims made most persistently for margarine is that it is the all-round equal of butter. It is alleged that all the food value, all the vitamins, everything that butter contains is available in margarine. Here are some new facts recently brought to light.)

By H. A. BENDIXEN,
Washington State College, Pullman, Washington

CERTAIN highly unsaturated fatty acids, present in butterfat, now appear to be essential in body tissues. Their nature and importance, however, are still poorly understood and must be given further intensive study. Unsaturated fatty acids in various vegetable oils, including soybean oil, coconut oil, peanut oil, and corn oil, exhibited definite toxicity for dairy calves as indicated by the work of Dr. Gullickson at the University of Minnesota.

When the unhydrogenated oils, homogenized into skim milk and supplemented with vitamins A and D, were fed to the calves, the animals sickened and died by the time they were three months old, while the calves receiving the whole milk thrived.

When the vegetable oils were hydrogenated prior to the addition of the skim milk, their effect on growth was improved, but their nutritional value for the dairy calf was still below that of butterfat.

The nutritional needs of ani-

mals and of man, however, vary. They even vary with different types of people, and the fact remains that nutrition experts consider today's margarine a wholesome and nutritious spread. Even dairy farmers have been willing to use it on their calves.

In the past jealous competitors, however, accelerated their efforts to improve margarine. Vegetable fats were found to be equal in energy value to butterfat. In due time, the highly-prized vitamin A was isolated and methods were developed for its low cost production.

In 1941, margarine manufacturers were permitted to use pure vitamin A in their product, and it now became economically feasible for them to fortify their inexpensive vegetable fats to a point where in 1943 the Food and Nutrition Board of our National Research Council could no longer detect any significant nutritional differences between the properly fortified margarine

and butter. Today, fortification to equal the vitamin A content of butter is accomplished at a cost of less than half a cent a pound. Furthermore, the extent of fortification may be maintained at a constant level throughout the year, while butter naturally runs high in vitamin A in the spring of the year, but considerably lower during the winter feeding months. Vitamin D may also be added.

The fats used in margarine today are almost exclusively soybean oil and cottonseed oil produced on American farms. In their natural form, they have undesirable flavors and odors, but scientific research developed refining procedure to remove these flavors.

Furthermore, the melting points of the natural oils are too low to permit solidification at ordinary temperatures. To overcome this difficulty, processes of hydrogenation were devised, and the melting point of the oils may now be adjusted in such a way as to give the finished products the optimum spreading consistency for any given climate.

Added Acid

Various other defects of margarine, as compared with butter, were corrected one by one. Thus, margarine used to sputter and pop when heated in the pan. Today manufacturers add glycerin derivatives to give it improved kitchen manners and to make it melt quietly when heated. Science also discovered a means to prevent burning and sticking in the pan by adding vegetable lecithin and, to improve keeping quality, citric acid may be added as an antioxidant.

It is now permitted to be colored to look like butter and it may even be preserved with benzoate of soda, a privilege which is denied butter.

Thus, substitute manufacturers have been taking butter apart as completely as possible trying to discover what makes the world's best spread for bread tick and to be able to imitate it in every detail. When scientists discovered that the principal ingredient giving butter its fine flavor is diacetyl, this flavor substance, was isolated, and today diacetyl or culture distillates are commonly added to margarine to simulate the flavor of butter.

While foods prepared with margarine still lack the fine flavor of those which mother used to make with butter, it must be admitted that margarine has come a long way with the help of modern scientific research.



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45-2

Eastern Canadian farmers get the biggest subsidies

By ARTHUR MENKEN

ONTARIO and Quebec are receiving more money in farm subsidies from the Federal Department of Agriculture than all of Western Canada put together. This will surprise westerners who have become accustomed to frequent reminders of amounts paid as P.F.A. (Prairie Farm Assistance) benefits. The net cost of P.F.A. for the 13 years from 1939 to 1951 was reported as 79½ million dollars, with the other \$58 million of gross cost being covered by the 1% levy on western grain marketings.

The record of farm subsidies constitutes a welter of figures that take hours to read—even when they are tabulated and summarized so conveniently in the recently published report by the Division of Economics, Canada Department of Agriculture. Page after page of tables show the thousands of dollars paid under each subsidy (there are dozens of them). The distribution of this money is shown for each year, and where possible the amount spent in each province is shown separately.

It is interesting to total up the score for the last 10 fiscal years (1941-42 to 1950-51). There you will find the amount spent for the direct benefit of agriculture in Eastern Canada to be over 331 million dollars with Western Canada totalling \$324 million. And you may note the provinces of Manitoba, Saskatchewan and Alberta, (so famous for their use of agricultural assistance), have received \$289½ million while Ontario and Quebec had to content themselves with a mere \$278 million. However, the figure for the Prairie Provinces includes the gross cost of P.F.A. When they are credited with their share of revenue under this policy the figures even off at \$240 million for the Prairie Provinces and \$278 for Ontario and Quebec.

Items listed as subsidies include a lot of capital investment in development and reclamation works. These cover such projects as dykelands reclamation in the Maritimes; flood control work along the Riding Mountains of Manitoba; P.F.R.A. work in the drought area; the development of major irrigation and power projects in the Prairie Provinces; and the reclamation and flood control projects of the Lillooet Valley in B.C.

Some of these items can be listed against individual provinces, but they have not been considered in this discussion as direct assistance to agriculture. Most of the money on these projects goes for imported equipment and services, and the final benefits will be shared by the whole country. The cost and returns from such projects are no

more accountable by individual provinces than the building of a transcontinental railway or the St. Lawrence Seaway.

Of course some of these items are large. The total for P.F.R.A. (excluding administration costs), for the 10-year period was almost \$23 million; and the major irrigation and power projects, including the St. Mary river dam, received over 14 million dollars. But these items are mere trivia when compared to a total of 190 million dollars spent for various feed assistance policies which include feed freight assistance of \$135 million



to Eastern Canada and 15 million to British Columbia.

The report lists about 100 different subsidies. Some of them are past history but payments have been made under 71 of them during the past 10 years. The authors naturally refrain from predicting where we are going but they certainly give a bird's-eye view of where we have been. Scanning the record you will note the old established hand-outs like "grants to agricultural organizations" which average \$125,000 per year; "National Livestock Records" at a steady \$18,000; "The Canadian Horticultural Council" at \$5,000; "fairs and exhibitions" down to \$65,000 during the war years, but growing up now to about a half million dollars per year. All of these are interesting and important, but some of the odds and ends are more fascinating.

Take for example the "replacement of maple production equipment." The text explains, the United States Food and Drug Administration requires that maple product imports be free from lead impurity. In 1940 the Federal Department agreed with the province of Quebec to share equally the cost of assistance to maple producers in the replacement of lead contaminated sap buckets with others of approved material. The figures show this policy was pursued with vigor the first year as the Federal Government spent \$106,000. One would expect that almost all the lead had been taken out of the sap buckets at one "fell swoop" as

the money required for this item was down to \$12,000 the second year, and then there were 3 years without any expense for new sap buckets. But Lo and Behold! they must have struck lead again in 1945, for the sap buckets took \$88,000 that year and by 1951 the annual bill climbed to \$470,000 for a total of \$1,903,000.

The report does not indicate what has gone wrong, but from this distance it seems possible that some of the lead is in the pants of officials trying to handle the problem.

Then there are little items that appear from nowhere, quickly fading like "ships that pass in the night: "Rebates to purchasers of flax scutching machinery" cast a fleeting shadow on the record in 1945 for \$174,000; and "white and yellow-eye beans" blink at you from the 1945 and '46 columns for \$690,000.

Apples have been a costly feature of the Canadian diet when you add up a total of 20½ million dollars in 12 years of alternate subsidies and price support. For a while they were getting at the root of the trouble, as they paid out grants totalling a million dollars for "apple tree removal" in Nova Scotia in the period 1942 to '48.

When you think of agricultural assistance it is natural to take a second look at that sunburned "champ" of the prairies, the drought depression and freight-ridden province of Saskatchewan. Famous for agricultural relief in the '30's, so often mentioned for its large share of P.F.A. benefits, recently noted as the greatest export wheat producing province in the world, — Saskatchewan will contribute more to the P.F.A. fund from its 1952 crop than it used in the two previous seasons.

For the 10 years ending March, 1951, Saskatchewan received a smaller net total of direct Federal aid to farming than that time-honored model of farming wealth and stability, the Province of Ontario.

At last the Prairie Farm Assistance policy is thrown up against the proper background. It is a first attempt at a crop insurance plan. It may have imperfections; the prairie grain growers would be the first to admit this, and would likely be the first to work out solutions if they were given a chance.

But the important thing is this: P.F.A. with a net expenditure of 79½ million dollars in its first 13 years of operation is a modest plan when shown against the whole picture of agricultural assistance. With all its imperfections it has been one of the most praiseworthy methods of putting money back into circulation through the hands of people who needed it. mostly made good use of it.

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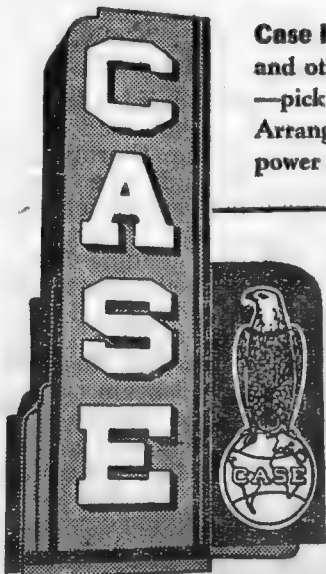


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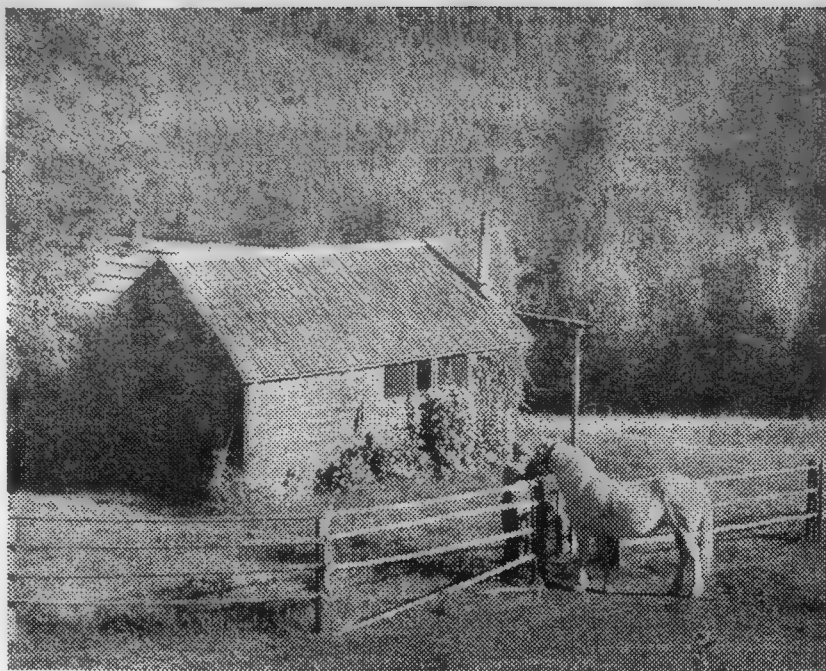


Photo by Clemson.

Birds of Paradise and other oddities of winter

By KERRY WOOD

THE other day I guided a Texas oil-man through our town's bird sanctuary, and the first creature we sighted was a tiny Chickadee.

"We got bigger birds in Texas," said the visitor.

Further along the path, the kack-kack of a Magpie sounded and the black and white bird perched on top of a tree to look us over. After I'd told the Texan something about the bad habits of this beautiful but predatory scavenger, he retorted:

"We got better birds in Texas."

Nettled by this, I was quite willing to prevaricate when a splendid Pileated Woodpecker flew up from a spruce stump uttering its strident call, the scarlet top-notch of the 17-inch long bird flashing vividly against the white snow as it winged away.

"Hey, what was that showy critter?" asked the Texan.

Cheerfully I lied to him: "That, my friend, was a Bird of Paradise."

For the smallest second the proud product of the Lone Star state was silent, then he sighed and wistfully said: "Golly, he's sure a long way from home!"

So I certainly won't try to put anything over on you readers in this article, being thoroughly chastened. Though the shoe was on the other foot yesterday, when a farmer phoned to ask if I could identify a genuine Chinchilla, the fabulously expensive fur-bearer now being raised by a few specialists in Canada. The farmer drove into the yard an hour later, a broad beam on his face as he told me his son had caught the animal in a trap. He opened a tin can to expose the victim to view, whereupon I told him it was a flying squirrel.

He was badly disappointed,

but rallied somewhat to ask if flying squirrels weren't exceedingly rare. When I answered that they were common in any region where evergreen trees are plentiful, the farmer viewed me with some suspicion.

"I've lived here in Alberta for forty years," he told me, "and in all that time I've never seen a flying squirrel before!"

Night Operator

That's because the soft-eyed little creatures are entirely nocturnal in habit, coming out after dusk has deepened into night and being a-bed before dawn breaks. For years I have sought their dens in woodpeckers' old nest-cavities, and found enough to convince me that in conifer woodlands flying squirrels are almost as numerous as their cousins, the well-known Red Squirrels. If you want to see the sun-down squirrels, visit a spruce wood on a moonlight night and stand near a small clearing and stare upward. Soon or late, a flying squirrel will glide across that opening to give you a sky-silhouetted glimpse of one of these graceful and fascinating little creatures of the night.

However, the joke was on me another time when I was travelling with friends along a highway on a blustery night, just as the north wind was driving the first bad storm of winter against the car's windshield. A large and ghostly white shape loomed in the glow of our headlights: it was a Snowy Owl from the tundra prairies of the Arctic. Friends in the car asked if such owls were plentiful in the prairie provinces, and I confidently stated that they were not. We usually sight no more than half a dozen such owls during the course of a whole winter in our district.

Full of Owls

No sooner had I explained this when another Snowy Owl flapped in front of the car lights. Next second, a third was seen, then another and more. During a mile's travel on that highway, we sighted over a dozen Snowy Owls in the glare of the headlights! As we were travelling around 40 m.p.h., it wasn't likely that the same bird was flying back and forth ahead of us. Indeed, most of the owls we saw were flushed from telephone and fence posts alongside the road, to discredit the notion of one bird flying along near us. We were all positive we'd seen at least a dozen different owls during that mile journey, giving the laugh to my statement that such birds were quite rare in our parts.

The explanation? Perhaps a number of Snowy Owls followed the same flight lane down from the Arctic wastes, wind-borne ahead of the blizzard we were bucking, and the birds converged into a loose flock as they approached our farming country hundreds of miles south of their summer homeland. Our car chanced to come along the road just as the migrating owls were resting on posts next the highway, the glaring headlights flushing them one by one from their perches. But I'll certainly be cautious about numbers, the next time someone asks me how rare are Snowy Owls!

Nature has many oddities for us to observe during the winter, which some folk believe to be barren of outdoor life. Tiny shrews, half the size of a human finger and the smallest carnivorous animals on our continent, are active all winter long in the Canadian west, briskly seeking torpid insects under snow-covered logs and among the dead leaves on the forest floor, the shrews sometimes hunting down and killing the much larger animals called mice.

Pocket gophers, the soil-makers of the prairies, do not hibernate in their underground dens, but continue to forage for vegetation and roots all winter long—and woe betide the farmer who has a well stocked root-cellar near a pocket gopher's home, because the seldom seen animals which many of us erroneously called moles are dearly fond of beets, carrots, and potatoes.

Flocks of parrot-like birds come to the tops of spruce trees at this season, shucking open the tight cones to get at seeds hidden under the flaky covers, and the beaks of the birds are specialized for this work by being completely criss-crossed at the points: the birds are known as Crossbills. The gray paper-palaces of Yellow Jacket Wasps are full of corpses during the winter, the only survivors of the summer's swarm being a few young queens sleeping in lonely crannies and holes in trees or behind loose bark, awaiting spring to found new colonies and build more paper-palaces.

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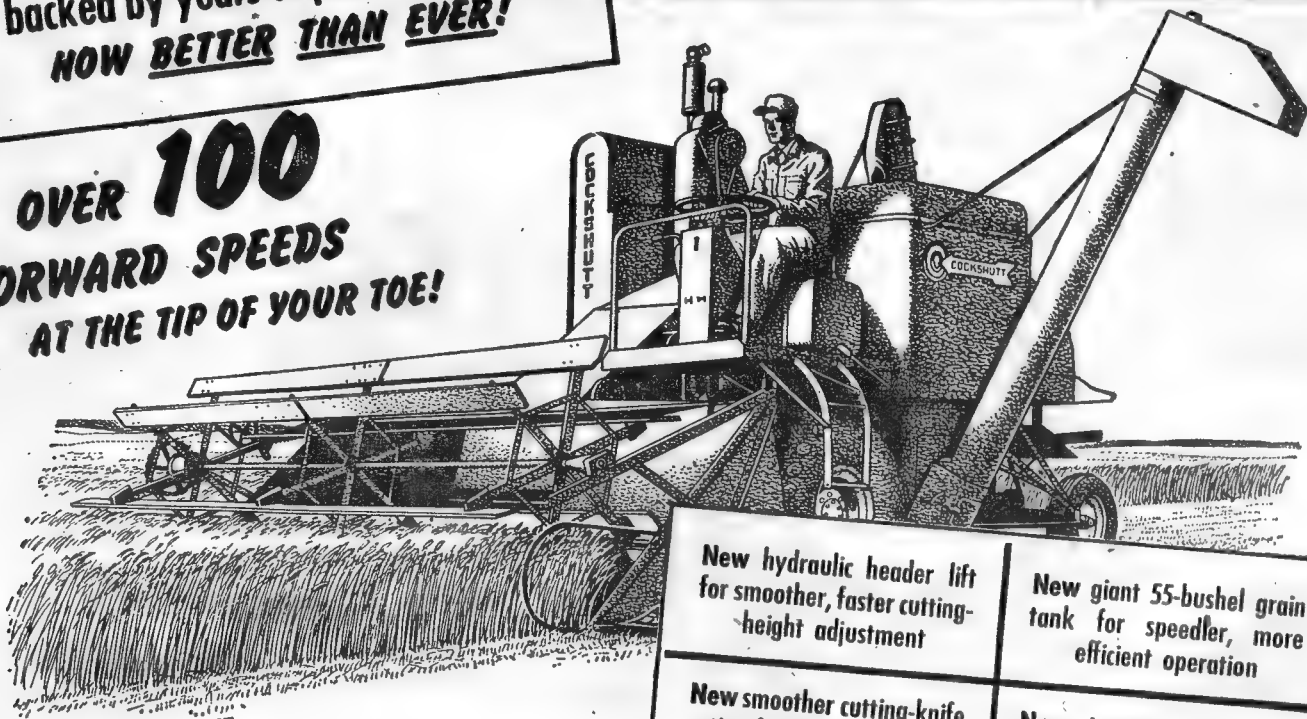
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School in Bed



The children in this picture are continuing their lessons under the guidance of Miss Margaret Gillespie, teacher at the Red Cross Hospital for Crippled Children, Calgary. Easter Seals help speed their recovery.

Have we gone too far with mechanization?

By TOM LEACH

HAD I not talked with a young man who travelled almost 800 miles to attend a short course in farm mechanics, the thought that we are going too far with farm mechanization would never have struck my fancy. He came from one of the newer farming districts in British Columbia and he said, "My father won't have a tractor on the farm."

That statement led to further questioning on my part. But before I spoke I studied the young farmer for a moment. He was a tall youth, possibly in his late teens, and he had a bit of sparkle in his eye. You could quickly imagine him showing his envy over the neighbor's new tractor when he had the onerous task of playing nursemaid to a team of slow, plodding horses.

"What do you think of this business yourself," I asked. Do you think horses are speedy enough to get the work done?"

He thought about it briefly before he answered and it was with some surprise I heard him say, "Conditions are different. My father can feed the horses on the farm. They get all the work done that we have to do right now. Neighbors have tractors but they are expensive, and it costs money to keep them up. Maybe someday we will need a tractor too."

Wants Horses

We have heard so many times that the lack of machinery on the farm is the reason for young people going to the city for work that this expression of faith in his father's opinion that the time was not yet ripe for power equipment on the home farm, came as something of a shock.

Here, surrounded by a universal demand for more and more power machines on the farm was a young man who stood up for the horse. Had he attended the recent meeting of horsebreeders in B.C. he might have revised their estimate of the horse, for it was apparent at the meeting that the thought of the horse as a mode of power on the farm was almost forgotten and that from now on the majority of the Clydesdale, the Belgian and the Percheron must be sacrificed to the depraved appetite of exhibition visitors who regard the horse much the same as they do the buffalo in our national parks.

Allowing for the fact that the farm managers and the experts with the pencil and paper can show in black and white with their figures that the horse economy is dated, that labor costs make it imperative for the farmer to adopt speedier power equipment to get his work done, I have been thinking that there are many places where old dobin can more than pay his oat bill.

You might take this farmer for an example. The chances are that he would be driving a high-horse-powered tractor if he had several hundred acres of grain land to disc and seed within a period of several days. He would more than likely be using the most up-to-the-minute gas eater if he were farming a piece of high-priced land nearby a large urban center where his help could leave and find a job at \$2.00 per hour within the space of a few miles. But he does not happen to be farming under those circumstances.

He and many farmers like him are on the fringe of settlement. They are the pioneers

trying to break new land, to convert our untamed wilderness of the north into food-producing soil. Some of these people came to Canada under a handicap. They are frequently referred to in a sarcastic tone as D.P.'s. They could more better be classed as "Delayed Pilgrims" and we have much to learn from them.

Lacking cash assets this old country farmer settled new land. It was covered with native shrubs and trees and most of the eighty acres he now has under the plow was cleared by hand. In the last few years the land clearing program of the B.C. Department of Agriculture has helped him to clear more acres but even there he found that many hours of hand labor were necessary to clean up bits of stump and roots which the heavy machinery missed in its rapid drive over the land.

Organic Need

To get his soil into the best possible condition for cropping he realized there was a need for organic matter. Heavy, sudden showers in the central B.C. area can wash loose soil away quickly. The land needs the protection which a growing crop or organic matter can provide. Instead of investing his money in power equipment suitable for a quarter section of cleared land he bought horses. The investment was lower and he had the additional funds to buy feeder calves. As more area was cultivated each year more stock has been purchased for the twofold purpose of providing manure and to utilize the harvest of hay and grain.

His operation may vary widely from that of many settlers who can comfortably put the cash across the counter for a tractor and the power-driven equipment which must be used with it. Possibly some have other work which they can do with their tractor when it is not needed on the farm. For the most part though, custom work with the tractor comes at the same season that the tractor is needed at home.

Not many new settlers happen to be situated so that they can put their tractor or other equipment to work in the off season. On the other hand they have so many hours of chore work to do in the winter months and the few added minutes it requires to attend to the team are not jotted down in the account book as a specific charge against the coming year's crop.

Even near the cities there are farms where a good single horse, or even a team, might be used to good advantage. There has been so much talk of mechanization and easier ways of farming, it would appear that the romance of good husbandry has been overlooked. The intimacy which grows between a good farmer and his horses has been sacrificed to speedy tractor work to allow the operator more minutes to climb into another

motor-powered vehicle and whisk away to town more frequently than he was previously accustomed to.

Greater Production

No one would deny that the development of the tractor has had far reaching effects in the production of food; that it has enabled the farmers of Canada to produce extra food for export to people who have insufficient land or power to produce their own food requirements. The change from horse-drawn binders to the power combine speeded up the harvest and left more food for humans and other livestock but as long as we have new frontiers to develop, new settlers to establish, the horse will find his usefulness enduring.

The horse is particularly welcome among many of the small farms dotted among the bays and inlets of the rugged coast of B.C. There the farms are small because nature failed to endow the shoreline with anything but small patches of arable soil. Likewise many of the berry growers of the coast areas find the horse with the accompanying hand cultivator, better suited to handling along the rows which are planted in many instances on sloping hillsides. Slippage of mechanized equipment may cause more damage to the plants than the time saved.

There are also farmers who would prefer a team of horses for small jobs around their farm but have been forced through a shortage of intelligent help to let their horses go and use tractors. Good teamsters are few and far between now. A man who knows how to handle a team is a rarity among farm help and when one must rely upon hired help to do the work it is often considered safer to trust them with a cold-blooded gas engine than a sound team of horses.

Still one more feature of horse farming which was brought to my attention is the fact that slovenly work shows up quickly when done with a team. My farmer friend confided, "With a tractor you don't expect much in the way of workmanship, but with a team you expect the work to be done right."

Before going too far with power equipment we might study the place the horse has in the operation of the farm.



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The Russian purges are a chance for the West

By BEN MALKIN

THE great purges in the Soviet Union and its satellites in the past few weeks are a reminder that Russia has its inner weaknesses and disputes, just as the free world has. But in the West, these weaknesses are openly discussed, become widely known, and are rectified through debate and after public opinion has had a chance to express itself.

In Russia, weaknesses are concealed behind censorship. Power struggles below the surface are kept hidden. Because of this, many in the West tend to overlook the fact that there are weaknesses, and dissension, and to be overawed by the appearance of stability and infallibility which Russia's leaders try to foster.

The arrest of a number of leaders in Czechoslovakia, East Germany and Russia indicates that dissension has reached very serious proportions. And whereas in a country like Canada a struggle for power between political groups is settled through a general election, in a dictatorship it can only be settled by the stronger group destroying the weaker.

If the history of the past 30 years is any yardstick, behind the arrests and executions is a struggle for power in the inner circle of Russian government, and a major shift in policy. It has always been so. In the 1920's, a series of purges accompanied the struggle between Trotsky and Stalin for control of the Soviet state, and a major change in policy was announced. Stalin decided not to wait for a world revolution, but to try to build a socialist state in the Soviet Union alone.

In the 1930's, there was a second great purge. Younger

men fought to eliminate older politicians from high government places. A second source of inner tension was the series of five-year plans that created untold hardship and suffering for millions of peasants. These tensions led to the great purges of the 1930's.

It is almost certain that similar reasons, in general if not in detail, are behind the present purge. Several big changes of policy seem to be in the offing, and these could clearly lead to quarrels that in a dictatorship can only be ended by the death of the weaker party.

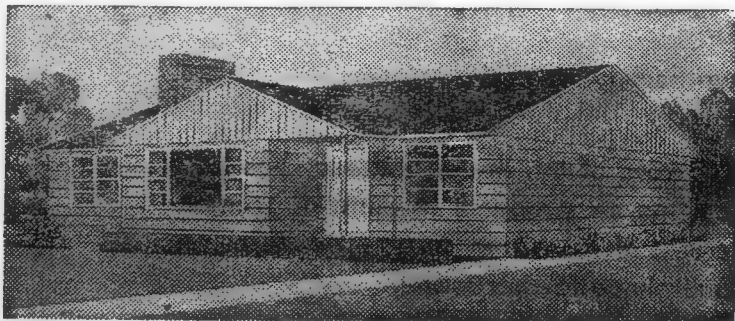
For one thing, Stalin announced several months ago that it was foolish for Russians to think they could achieve communism soon, with the higher standard of living which that implies for the Russians. On the contrary, they would have to continue working very hard to build capital goods and armament, rather than consumer goods. This must have been a serious blow to all those Russians who had hoped for a slight easing of their lot in coming months and years.

Wooing Germans

A second major policy shift appears to be an attempt to make Germany, or at least East Germany, a Soviet satellite in the true sense. But to win German support, it would be necessary to make territorial concessions at the expense of Poland and Czechoslovakia. Such concessions would be resisted in the latter two countries unless these were ruled by men who agreed absolutely with such a policy. Many of the Communist leaders in these two countries are still bitterly anti-German. It would seem best to the Kremlin to eliminate them, as well as any

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German Communists who might object to their country becoming virtually a colony of Russia.

In the Kremlin itself, this shift in policy would be bound to create misgivings among some Russian leaders, and consequent dissension. As well, Stalin is at an age where he may not be able to maintain his iron rule much longer, so that it would be reasonable to expect a struggle for the succession. And the men in the Kremlin play rough.

A man isn't eliminated by getting him a job with the United Nations or by appointing him a judge. He's found guilty of treachery, plotting, and spying on behalf of the "imperialists," and executed. And since almost everyone in the world held opinions at one time or another which were all right at that time, but in the light of present-day events, he wouldn't hold now, it's easy enough to dig up something from a man's past to prove he's a traitor today. Anyway, it's easy if he lives in Russia.

It would be wishful thinking to imagine that out of these purges will come a weakened Russia, — although, of course, this could happen. But the experience of the purges of the 1920's and 1930's indicates that these affairs do not seem to weaken Russia. They are Russia's way of settling political differences of opinion, and struggles between persons and groups for leadership. They resolve weaknesses, rather than create them. But the purges are valuable to the West in disclosing that such weaknesses do exist. Dissension is there. It is for the West to exploit it.

Canadian Quiz

By GEOFFREY SHAWCROSS

1. Which governor-general caused a memorial to Montcalm to be placed in the Ursuline Convent Chapel of Quebec City?
2. Who initiated the geographical survey of Canada beginning in 1943?
3. What else did he do?
4. Who created the hydro-electric system of the power supply which led to the development of Canadian secondary industries?
5. Who made topographical and geological surveys in nearly all parts of Canada?
6. Which statesman took up permanent residence in England in 1938?
7. Who was President of the League of Nations Society in Canada, 1921-23?
8. What important task did he undertake in Europe in 1919?
9. Who was the first person to receive the Prince of Wales' gold medal as a prize, in 1862?
10. What did the person so honored subsequently become?

(Answers on page 41)

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Step-up urged in war on rats

SASKATCHEWAN farmers have been urged to extend the war against rats which annually cause thousands of dollars damage to farm stored grain and feed.

The director of the department of agriculture's plant industry branch, R. E. McKenzie, made the statement in commenting on the discovery of a new formula of Warfarin which is water soluble. The new product is available from Saskatchewan distributors.

The rodent poison, developed by Dr. K. P. Link of the University of Wisconsin, was formerly produced only as a concentrate in starch and was mixed with ground cereal grain to form bait.

The concentrate of the new water soluble poison contains 5% Warfarin coated on 99.5% clean sand. The coated sand is marketed in packages which give one part of Warfarin to 20,000 parts of water when mixed with one quart of water. A chick fountain serves this purpose well.

Since the formula is odorless and tasteless, the rats continue to take the poison. It must be consumed daily over a week or two-week period, causing death painlessly by internal bleeding.

It is possible, Mr. McKenzie said, for cats, dogs, or pigs to be poisoned by eating dead rats, but they would have to consume several each day for a week or more. It is this necessity for regular daily doses which provides the high safety factor in using Warfarin. Chickens have a very high resistance. Chicks over ten days old are able to feed and grow on mash containing sufficient poison to kill rats.

Mr. McKenzie pointed out that rats drink three times as much water as they eat dry food, and are therefore very susceptible to water soluble Warfarin. He suggests that the poison container be placed behind a simple barrier such as a board nailed in a leaning position along the base of a wall.

Dr. Link has stated that rats could be eliminated in less than fifty years. "This would be of great benefit to food production," said Mr. McKenzie, "since rats on this continent eat or spoil as much food as can be produced on over 200,000 farms."

Triangle. In Portland, Me., Mrs. Marie Van Zelm, suing for divorce, complained that her husband: (1) hung his late first wife's clothes in their bedroom closet, (2) kept an urn of her ashes in the living room, (3) framed her pressed funeral flowers on the wall, (4) always bought two Christmas trees and explained, "One is for us [meaning the first wife], the other is for you."

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and jolt-absorbing front axle . . . greater maneuverability with foot-operated differential brakes . . . and smooth, positive, effortless equipment control with direct, engine-driven John Deere Hydraulic Powr-Trol.

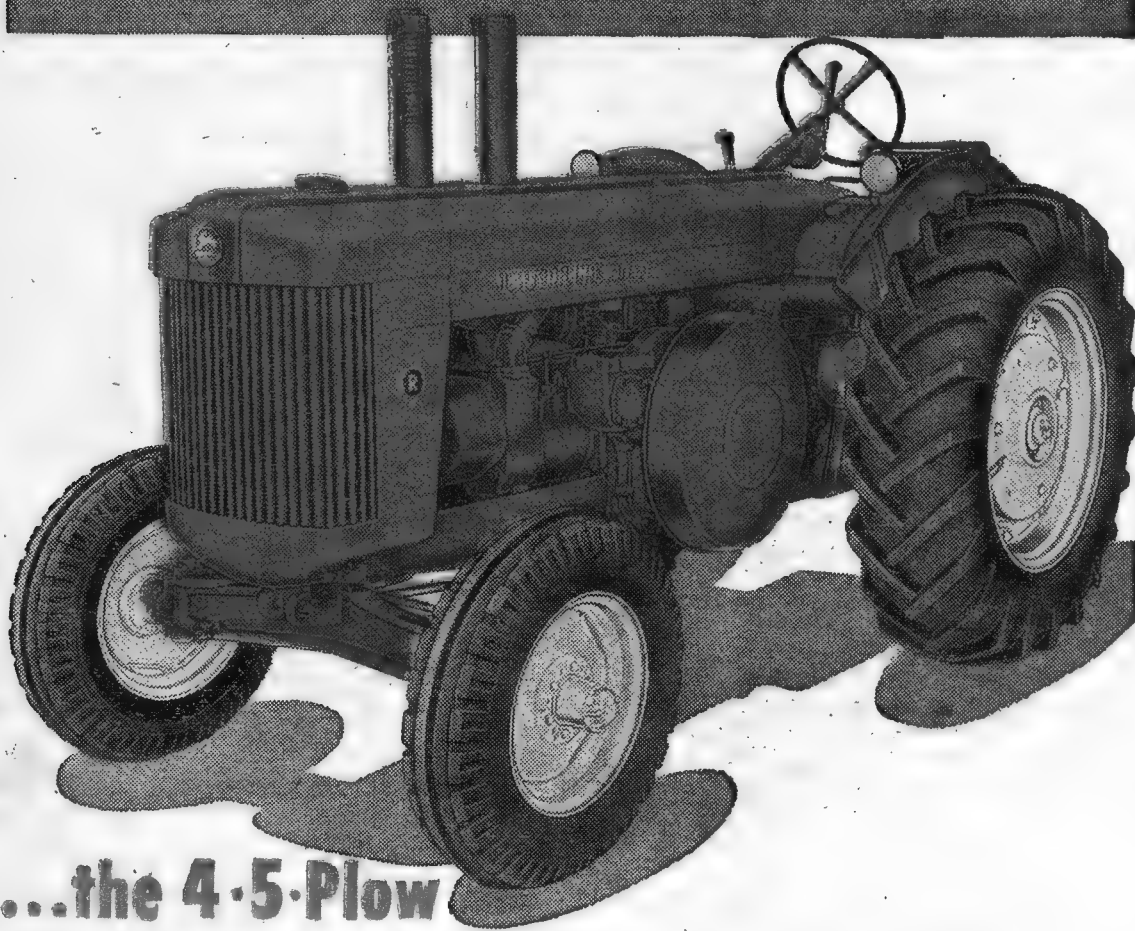
On every job, day after day, year after year, the "AR" will save you money. Its powerful engine is a miser on fuel. And the *unequalled* simplicity . . . the *unmatched* strength of parts of exclusive John Deere *two-cylinder* design assure lower maintenance costs, greater field dependability and longer life.



At the left, the "AR" is shown disking in grain stubble with a 12-foot Surflex Tiller. The "AR" has a six-speed transmission which provides just the right speed for every job. The "creeper" gear of 1.3 mph is ideal for drawbar jobs that require a slow travel speed. Power-driven equipment can be pulled along at a slow, steady pace, with the power shaft operating at full rpm to drive the equipment at maximum capacity. The transport speed of 11 mph saves valuable time in getting to and from the job.

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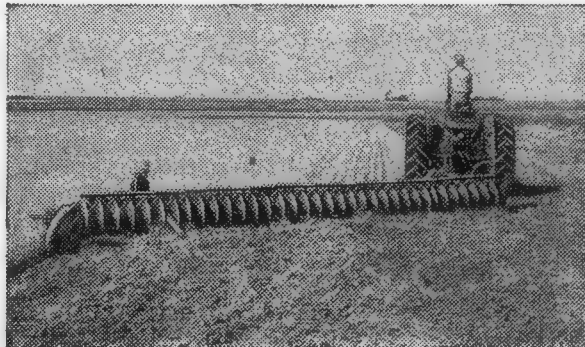
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This Model "R," at right, is pulling a 20-foot John Deere Surflex Tiller. The tiller—one of many machines John Deere has developed to take full advantage of the power and speed of the "R"—covers between 8 and 10 acres an hour on about 2 gallons of Diesel fuel, cutting time and production costs to new lows. Famous John Deere Hydraulic Powr-Trol raises, lowers, and sets the tiller—and other big-capacity equipment—at any in-between position desired at a touch of the hand on the convenient control lever.



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Courageous birds

NATURE treated waterfowl generously when she touched wildlife with the magic wand of courage... From the majestic Canada Goose to the diminutive Ruddy, shines bright the will to resist aggression.

Most recent proof to reach Ducks Unlimited comes from the columns of the Campbell River, B.C. Courier. Ingredients of the story are simple—an injured goose, a marauding owl and a farmer with an abiding faith in wildlife conservation.

Apparently a Canada Goose with one leg missing has taken up "squatter rights" on Farmer Tom Hudson's land... That's all right with Tom, who modestly admits that he hasn't shot anything on his farm for some 30 years. Further, he has "No Hunting" signs posted about his property.

Recently, a large owl attempted to attack the handicapped goose. Although an adult Snowy Owl is capable of pinioning and lifting a ten-pound jack-rabbit, the goose is a much more formidable antagonist. In this instance, the owl was easily beaten off by its one-legged prey.

Records of waterfowl courage have been noted throughout the years by Ducks Unlimited personnel, but possibly the prize goes to a pair of Hungarian partridge... It happened like this:

A D.U. naturalist was skirting a bluff one June day, accompanied by a three-quarter-grown collie. The dog suddenly scented something, started a slow stalk into the bluff.

Moments after, the man heard a startled bark, then out of the bluff shot a frantic canine, two adult partridge riding his back and digging furiously with claws and beaks. As the dog rocketed across open ground, the birds rose into the air and circled back to the point of contact.

The man investigated, found a nest with newly-hatched chicks; explanation enough as to why the poor canine had gotten such a "frosty" reception.

One of the earliest recorded examples of waterfowl courage came from the great naturalist Audubon. Writing of a field trip in 1840, he described finding a Canada Goose nest with female incubating and male on "guard duty" nearby.

"The gander seemed to look upon me with utter contempt... But as I came within a few yards of the nest, it launched itself into the air, flying directly at me. So daring was this fine fellow that in two instances he struck me a blow with one of his wings on the right arm, which for an instant I thought was broken. After each attack, he would run swiftly toward his nest and mate, ascertain their safety and again assume his attitude of defiance."

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Help for pensioners

To the Editor:

I have been reading your paper for five years and have not seen anything re entertainment for elderly people.

Perhaps you do not have pension clubs or meetings for old people, and in many places where such do exist same are very dull affairs.

About a year ago I joined a pension club, although not a pensioner or that age, but thought I could be of some assistance.

First I suggested that members bring a piece of poetry or smart saying to answer with their name at roll call which they enjoyed.

Being made an entertainment committee, I next put on a private card party for funds and prizes were donated for same. Money realized from this was used for a "bingo party" with gifts enough for all members. At another meeting ice cream was served as a special treat by Dixie cups, and music was arranged for another meeting which was very much enjoyed. We sometimes have movie pictures shown by our Film Board free.

We hope in the near future to promote help for an old people's home which is needed in every district and by making meetings interesting we increase attendance and membership.

In summer holidays, we sponsor a picnic to some nearby resort, expenses being paid by public donations given us. Next month we will have a Valentine Post Office with members exchanging Valentines, and committee giving one to all present and we will serve red jellies as we have tea at the close of all meetings. At one meeting was an old-fashioned spelling bee which caused a lot of fun.

I do hope you will see fit to pass on these ideas to those interested in pensioners.

Mrs. Marion Newton.
Box 101, Mission City, B.C.

We are silly

To the Editor:

I note that in your issue of December last, you have an editorial under the caption of "Don't get drowned in average price nonsense," which is a little surprising in that, by inference at least, you admit that this monopoly, the Canadian Wheat Board, for the existence of which you are so thankful, is no better than the Wheat Pools were, more than twenty years ago. I do not think it is as

efficient as the Pools were, and it seems to me its operating expenses are much higher.

You tell me that there is a high point and a low point each season in grain prices which is generally correct, and then, in the same breath, tell me that the average price is sheer imagination and that it does not exist. In other words, there are the two extremes but there is no mean. I am afraid that your fantasy has got the better of your logic. A great many times this last 45 years I have got better than the average price for my grain and there are lots of farmers who have done as well.

It would be well if our younger farmers would inform themselves on this question of grain marketing so that they could, for themselves, sift facts from fantasy and propaganda. Probably they will then make a better job, all round, than this generation of tilers at windmills has been able to do.

The quotation from the Wheat Pool Budget with which you close may be witty, but it seems a little silly to me.

W. Ratcliffe.

Sylvania, Sask.

They're not matchmakers

To the Editor:

YOU put out a very good and straight-forward publication. But in your last issue,

January, '53, your writer, Harry J. Boyle, in his story, "Meet Ed. Peabody, who's never been hooked," included a libelous statement which should not go unchallenged.

His statement, re Women's Institute meetings is very far from the truth. I have been attending such meetings for several years. The business of the meetings, which covers much ground, is all for the furtherance of the well being of the community and country. We work for the improvement of the schools, the needy, the community social life, and the laws as they affect women, etc. A very small portion of the evening is given to social talk over the refreshments, and in all the meetings I have been at no one has bothered about such incidentals as matchmaking.

(Mrs.) C. Macalister.

Macalister P.O., B.C.

Chicken feeding

To the Editor:

I WISH to congratulate you on your very excellent and educational editorials in your Farm and Ranch Review, also short stories and other interesting articles, also the useful tables of weights and measures.

Also may I beg to suggest that sometime you print a table on feeding poultry, as I understand over-fed hens and under-fed hens are not good layers, understand I am not trying to show you how to edit your excellent paper, but I feel a table on poultry feeding would be of great interest to many of your readers.

D. H. Chivers.

Miles Landing, B.C.

Meditations at twilight

By A. L. MARKS

WE speak of the "Five Senses" of man, in referring to his physical senses which interpret to him his physical environment, as perhaps his most prized possessions.

But how they mislead you!

If, in reality, we were only animals, that would be true; but man, since time's beginning, has known that he is not an animal as other animal forms are, but that he is in spirit.

He can't explain it, but he knows his life goes on and on, when it is no longer associated with his physical and material body.

That is why the Egyptians mummified their dead. That is why Socrates told his sorrowing friends, with a smile, before he was compelled to drink the poison hemlock: "Bury me where you like if you can catch me!" That is why Paul the Apostle found those philosophers gathered around that sign on Mars Hill in Athens, reading: "To the unknown God."

It is because man is a spirit, he has the natural instinct to worship the Spirit-Creator of the Universe—the expression of which spirit we call his "Religion" — whatever form it may take; even though he cannot either understand or explain it. For the same reason, there can be no such thing as an "atheist".

It is because man is so built he has a chance to save himself from himself — for that is what "Salvation" is — by means of two other "senses" entirely outside the line.

They are "common sense" and a "sense of humour", without which man would be a sorry creature indeed.

It is when he forgets these two senses, he desires to prove his maturity by his recklessness and foolishness from childhood on, like Silly Sam. For example .

He rocks the boat: Can't swim or float. He points a gun: Thinks it is fun! If ice is thin, he'll skate and grin. In brakeless car he roams afar. He smokes and drinks: For so, he thinks, it will be shown he's fully grown!



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DOMINION SEED HOUSE
GEORGETOWN, ONTARIO

Sawdust finds great use as mulch and soil improver

THERE'S no need for any sawdust being burned in the waste piles around small sawmills, declares G. O. Baker, Soils Technologist with the University of Idaho Agricultural Experiment Station. It should go back to the soil.

"Sawdust — plus nitrogen fertilizer—is an excellent mulch for starting new lawns, farm woodlots or berry patches and in improving the structure of heavy clay soils," Baker relates.

More Queries Received

The university soils man reports a sharp increase in queries to the agronomy department on agricultural use of sawdust. A common question is whether the resins and oils in wood are harmful to the soil. Baker's reply:

"Difficulties that have come in the past from use of sawdust trace to a nitrogen deficiency, not from toxicity of any materials in the wood. Breakdown of the sawdust temporarily ties up the available nitrogen in the soil. Supplemental nitrogen is needed during that breakdown period."

Complete information on the use of sawdust for mulches and soil improvement is contained in U.S. Department of Agriculture Circular No. 891. A copy may be secured from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for 15 cents.

For that reason, sawdust applied as a mulch or worked into the soil to improve its structure should be accompanied by a liberal shot of nitrogen fertilizer. Research has worked out this schedule: eight-tenths of a pound of ammonium sulphate or five-tenths of a pound of ammonium nitrate to each bushel of sawdust.

"Tree species makes no difference," Baker adds. "They all work about the same. Neither does age of the sawdust. Fresh works as well as that which has dried out. Real old sawdust, in the pile so long it has partially decayed and turned black, is best but that is difficult to find."

Used on Lawns

Several thousand feet of new lawn around the Agricultural Science building at the university illustrate lawn use of sawdust. On the heavy clay soil, composed largely of earth excavated from the building site, Lloyd Cowden, university grounds foreman, spread up to four inches of sawdust.

Layers up to two inches were worked in with a spike-tooth harrow. Heavy applications, up to four inches, were rototilled into the top four inches of soil. Two-inch applications of sawdust were accompanied by 300 pounds of nitrogen fertilizer per acre. Four-inch applications of sawdust increased fertilizer quantity to 500 pounds per acre.

"Don't overwork the ground after applying the sawdust," Cowden cautions. "Then you will have considerable of the sawdust on top to serve as a mulch."



"Can't I have twenty lashes with a wet noodle, instead?"

Ice Harvest



George Amusa won \$5 for this picture of John Efraimson and Einar Amusa starting the ice harvest at Margo, Sask.

Sask. government moved a lot of earth in 1952

THE conservation and development branch of the Saskatchewan department of agriculture did far more work on irrigation projects last year than in 1951, due to better weather, according to Hon. I. C. Nollet.

Most of the work planned for 1952 was completed, Mr. Nollet said, as well as considerable work that could not be done the previous year due to bad weather.

Earthwork totalled nearly 278,000 cubic yards, compared to a total of 224,000 in 1951. More than 16,000 acres were surveyed, 54 miles of ditches constructed, and 211 control structures built.

Ditching on the Chesterfield project, west of the Leader ferry, totalled 10 miles. More than five miles of ditching was done, and 11 miles maintained, on the Vidora project south of Maple Creek.

The greatest amount of

earthwork in the six-month period ending November 30 was done on the Bull Creek section of the Cadillac project—nearly 71,000 cubic yards were moved in building $3\frac{3}{4}$ miles of ditch and five control structures. Twenty-five miles of smaller ditch, 43 structures, and 180 acres of land levelling were completed at the Russell Creek irrigation project southwest of Swift Current.

Other major irrigation projects being developed by the conservation and development branch are located at French Flats, south of Saskatoon; Herbert, east of Swift Current, and Ponteix near Gravelbourg. 11,000 acres were surveyed in the La Fleche-Gravelbourg section of the Wood River Watershed.

There are more than 36,000 acres of irrigable land in the 14 irrigation projects where the C and D Branch concentrated its 1952 work.

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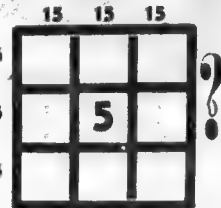
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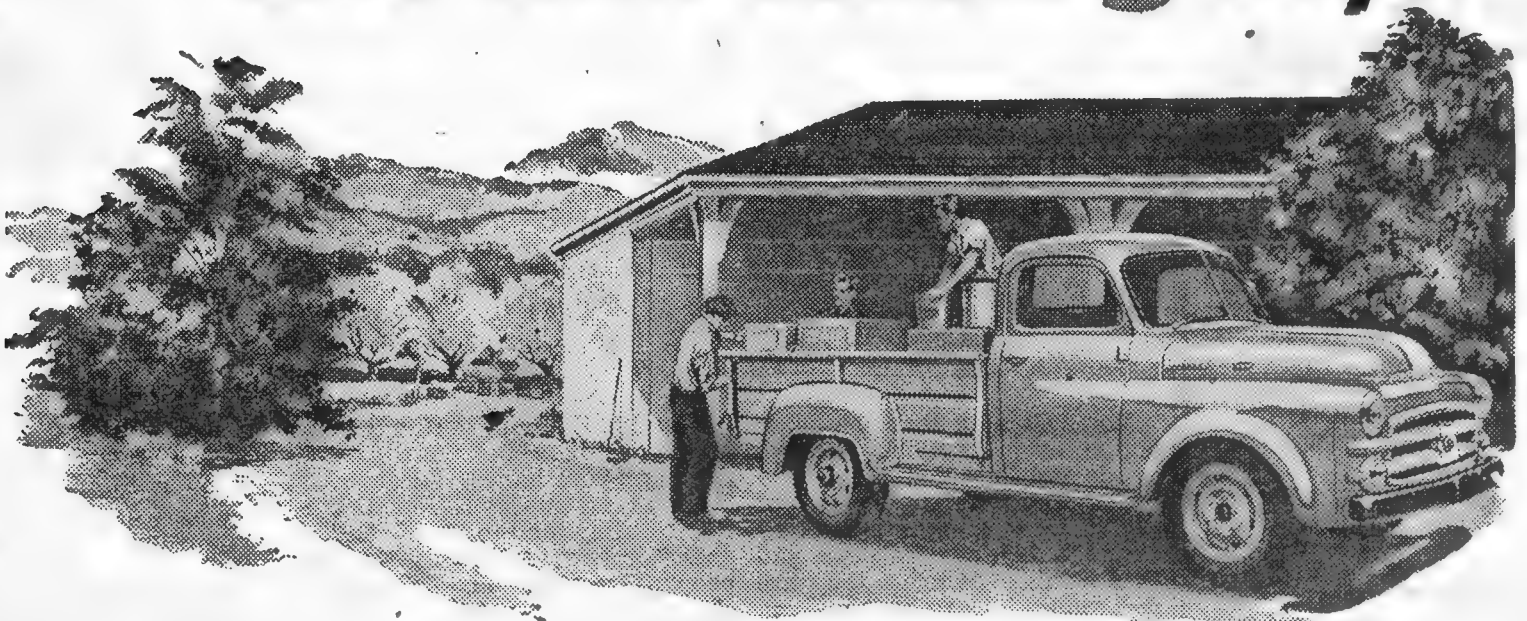
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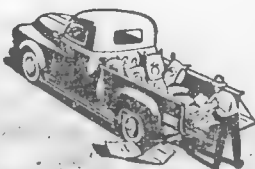
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Short course

THE Agricultural Short Course and Seed Fair for Lethbridge and District, which is sponsored by the Lethbridge Exhibition Board, Provincial Dept. of Agriculture and the Lethbridge Chamber of Commerce, will be held in the Lethbridge Sports Centre on March 3, 4, 1953.



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What does your handwriting reveal?

Are you a natural-born salesman or would you make a better mechanic? Have you got hidden talent for art, cookery or stenography? Would you be interested in getting the verdict of an expert on the character your handwriting reveals?

The Farm and Ranch has arranged with Mr. David Meyer, the author of this new and regular feature of the Farm and Ranch, to analyze the handwriting of its readers. Here are the rules:

Write at least 12 lines with pen and ink on good paper. Do NOT — repeat — NOT use a ball-point pen or pencil. Send it, together with 25 cents in coin: —

DAVID MEYER.

7 1/2 Jane St., New York City, New York, U.S.A.

Do not send stamps and always enclose a self-addressed envelope.

Calm writing reflects a calm disposition

By DAVID MEYER

HOW good is your judgment? Or, putting the same question in another form, are you objective at decisions or do you allow subjective factors to influence you? Do you think with your brain or with your emotions? Can you recognize facts and sift them and choose those that are in your favor and reject those that might harm you? Are you clear-headed?

In handwriting, the best clue to a person's charity of thinking is the manner in which he handles space, that is, the sheet of paper on which he writes. As I suggested in a previous article, the sheet of paper represents the writer's area of activity in which he expends his energies and expresses his thoughts and feelings. The sheet of paper is, symbolically, his external world in which he works.

Accordingly, good spacing between letters, words and lines indicates the composure that makes for lucidity of thought and calm grasp of facts. Thus:

*skepticism may be
carried to a fault.*

You will note that the spacing is in proportion. Letters, words and lines do not run into one another. We may infer that the writer's mental eye is as clear as his physical eye and that he sees facts as they are and knows how to handle them. He is judicious in evaluating them and in coming to conclusions.

Now, observe the following:

*good judgment is an
attribute of clear*

In this sample, the lines are entangled and the spaces between words are uneven. The writer's thoughts tend to run away with him. His emotions are over-active and often overwhelm his brain. It is difficult for him to see and isolate facts as they are, but he must always

color them with his wishes and feelings. His wish is father to his thought and he is often badly confused. He is likely to lose his head in an emergency.

When you discuss something with the writer of the first sample, he expects you to produce facts to back up your statements and opinions. And he will judge you by your facts. You may expect to win him over to your viewpoint if your facts bear you out.

The writer of the second sample is difficult. You will find it hard to impress him with facts. But appeal to his emotions, and he is your man.

The writer of the first sample has supervisory abilities; and if his writing is of a high order, he has executive and administrative abilities.

There are people who carry judgment and judiciousness to an extreme. That is, they are skeptical to a fault. The more facts you produce to impress

them with, the hungrier do they become for more facts until you throw up your hands in despair. There is just no way to convince them. They tend to "hem" and "haw" mentally just as some people stammer. You will find that the spaces between words and lines in their writing are too wide apart. The words and lines appear isolated from each other on the sheet of paper.

Then there are folks who show eagerness when you first make a suggestion to them. But as time goes on, their eagerness wanes and they begin to withdraw from you. You will find that the first letters of the words they write will incline markedly to the right, but that

the following letters will be more upright, thus:

habit

Or, the last letter of a word will be isolated, thus:

though T

Then there are folks with a predilection for changing their minds at the last minute after all arrangements have been discussed and agreed to. You will find leftward twists in the shapes of their letters, as in the following letter "y":

only

In dealing with these writers, it is always wise to have agreements down in black or white and notarized. If the writer is your girl or boy friend, don't count on her or his as being yours until the very last minute of the marriage ceremony.

Then there are people who love to fill out a sheet of paper from end to end, without any margins at all. If the writing is of a high order, this tendency indicates unlimited sympathy, readiness to assist others, sincere interest in mankind, hospitality, and fondness for splendor. If the writing is of a mediocre type, lack of margins will indicate egoism, tactlessness, obtrusiveness, garrulousness.

Wheat Pool reserve payment

THE Alberta Wheat Pool has mailed 15,000 cheques to the total value of \$1,161,000 to complete the redemption of reserves contributed by Pool members in the 1923-28 period.

In that period the original Pool members contributed \$8,400,000 through deductions on wheat delivered to the Pool to provide money to build elevators and to provide working capital for their organization. The original plan was to continue to take such deductions so that the early contributors could be paid out by later contributions. Financial difficulties over twenty years ago prevented the plan from being carried out.

Since 1942 a proportion of Pool elevator earnings has been allocated to the redeeming of a percentage of the original reserves each year. With the present payment the entire \$8.4 million of reserves will be completely cleaned up.

The reserves redeemed by the Wheat Pool are redistributed to members in the form of patronage dividends. Such are paid partly in cash and partly in reserves. At the present time these patronage dividend reserves are not being redeemed except in cases of estates of deceased members. Some \$300,000 has been allocated to redeem patronage dividend reserves in such estates and this money will be distributed during the month of March.

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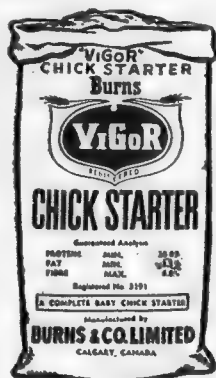
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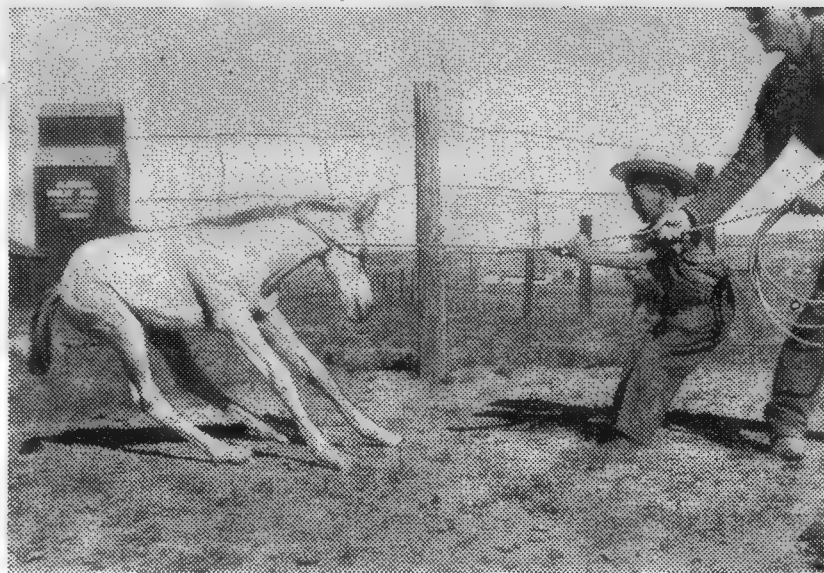


Photo by Richard Harrington.

They took plenty out of the soil

BUMPER crops in Saskatche-
wan for three consecutive
years have resulted in very
rapid depletion of soil resources.

The Director, Plant Industry Branch of the provincial Agricultural Dept., R. E. McKenzie, said that with the export of well over one and a half billion bushels of our major grains in that period went over 750,000 tons of nitrogen and 375,000 tons of phosphorous from the soil. He urged farmers in the province to give serious consideration to rebuilding soil fertility at a much more rapid pace.

The Director pointed out that with well above the long-term average yields coming three years in a row, we are now faced with an abnormally heavy and rapid drain on our soil resources. Mr. McKenzie compared soil fertility to a bank account, saying that both became insolvent if we continue to take out more than we put back.

A soil conservation specialist in the plant industry branch, H. M. Holm, has reported that legume crops offer an excellent means of meeting nitrogen needs in the soil.

Phosphorous, however, is exhaustible, and can only be returned to the soil through the use of fertilizers. Mr. Holm said that the last three bumper crops have removed from the soil an amount of phosphorous equivalent to that contained in 750,000 tons of the commercial phosphatic fertilizer, 11-42-0. "Saskatchewan farmers," he pointed out, "have used only 90,000 tons of such fertilizer during that period, and are therefore falling far short of maintaining an adequate balance of phosphorous in the soil." The specialist concluded, "Commercial fertilizers of high phosphate analysis offer us the only means by soil through the years to come."

Suspense. In New Haven, Conn., the wedding of John Granfield was postponed when, two days before the ceremony, both the prospective groom and his best man brother collapsed with ulcers, were carted off to the hospital.

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Home doctoring of animals

"HOME DOCTORING OF ANIMALS," by Harold Leeney, M.R.C.V.S. Revised by C. Greatley Saunders, D.S.O., Dr. Vet. Med. (Toronto), M.R.C.V.S. Fifth edition. Published by "Farmer and Stock-Breeder". 452 pages. 99 illustrations.

FOR very many years this standard work by the late Harold Leeney has been known and appreciated by the stock-owning public, and hundreds of students at agricultural colleges have also learned its value as a textbook. Since the last edition was published there have been considerable developments in veterinary science, and the book has therefore been largely rewritten and brought completely up-to-date by Major C. Greatley Saunders, who is known to farmers and stockmen of the whole English-speaking world as "Vet", of Farmer and Stock-Breeder. More than 90 new illustrations have been introduced.

This fifth edition forms a complete guide to the home treatment of diseases, injuries and ailments in all domestic animals and poultry. In each

case an introductory description of the disease is given, followed by details of the symptoms and full instructions for treatment.

The book includes information on the difficulties and diseases connected with parturition and on the troubles of the newly born. Treatment of wounds and the performance of operations within the scope of the laymen are fully described. A special chapter contains formulae for making up a wide variety of safe and approved medicines, liniments, lotions and ointments for many purposes; advice is also given on the best methods of administering medicines. Other chapters give full information on poisons and their antidotes, antiseptics and methods of disinfecting, controlling or trammelling animals, nursing and feeding the sick.

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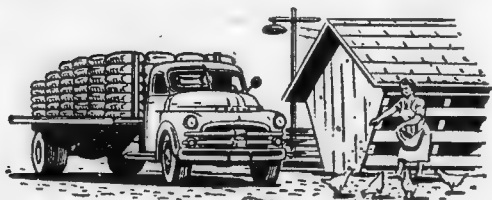
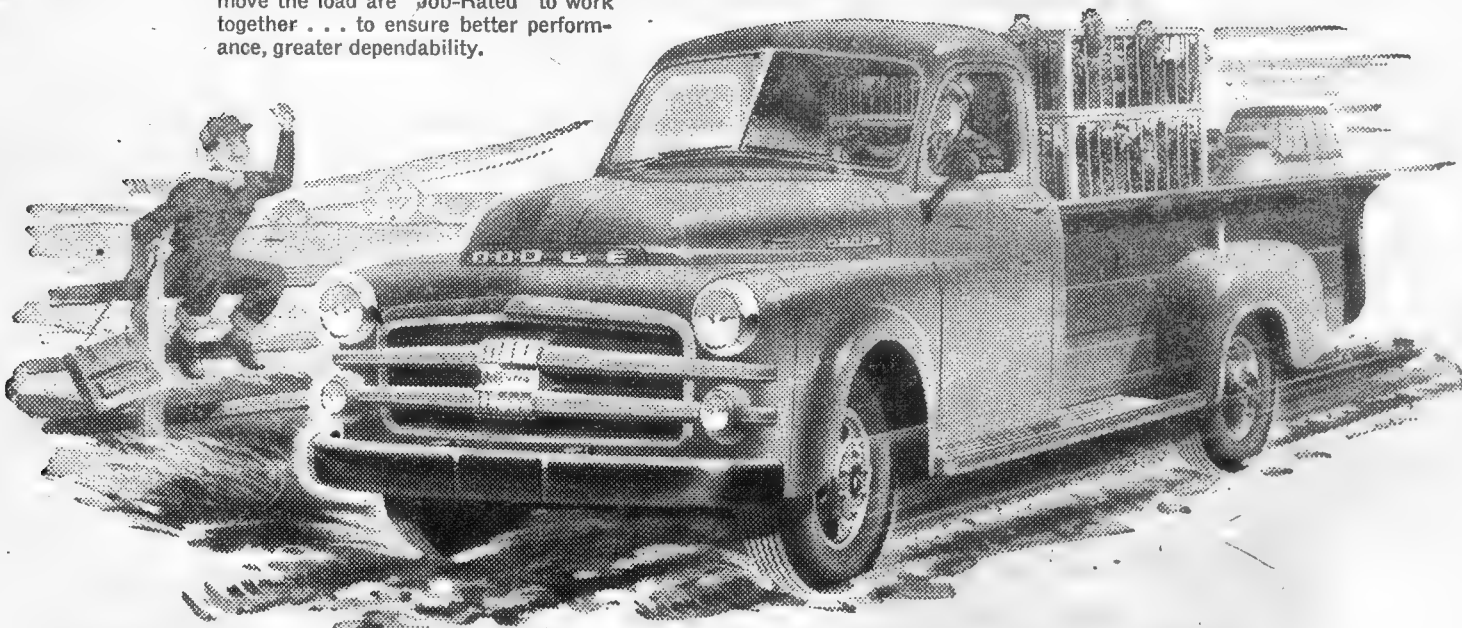
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Burn the right fuel and save some money

SINCE fuel makes up the largest single item in the cost of operating a tractor, the costs for tractors burning the various types of fuel should be considered. The four types available are: gasoline, diesel fuel, distillate and "L.P. gas" (liquefied petroleum gases). Each of these was developed for use in tractors because it was cheaper than those already in use. Distillate and diesel fuel were formerly a great deal cheaper than gasoline but now the prices of gasoline and distillate are more nearly equal, while diesel fuel is still considerably cheaper than gasoline. This difference in price makes up the largest part of the difference in operating costs between any two fuels.

The following is an average of the fuel consumption at rated load for the Nebraska Tests from 1948 to 1950. The prices used in the calculation are: gasoline, 1st grade, 26.6 cents per gallon; 2nd grade, 24.6; distillate, 23.1; diesel fuel, 18.6 and L.P. gas, 25 cents.

Gasoline tractors burned 0.579 pounds of fuel per horsepower hour, giving a cost of 2.09 cents per hp.-hr. on first-grade gasoline and 1.94 cents on second-grade gasoline.

Distillate burning tractors used 0.608 pounds per hp.-hr. which costs 1.70 cents. Diesels used 0.475 pounds per hp.-hr. which costs 1.05 cents.

A standard tractor fitted to burn L.P. gas used 0.501 pounds per hp.-hr. costing 2.32 cents. This same tractor with a high compression cylinder head used 0.491 pounds per hp.-hr. at a cost of 2.28 cents.

These results show how important it is to use the right fuel in an engine. There is a differ-

ence of about 7½ per cent in the cost using first and second grade gasoline, and a difference of 19 per cent between first grade gasoline and distillate. In general, it is more economical to burn the lowest grade of fuel that an engine is designed to use. It is not profitable to burn first grade gasoline in a distillate tractor or L.P. gas in a low compression gasoline tractor. (Swift Current Experimental Farm).

Planning the farmstead

WINTER time is planning time, and there is no time like the present to give some thought to the farm home and its surroundings. Pencil and paper are the first requirements, according to P. D. McCalla, Supervisor of Horticulture, Alberta Department of Agriculture. Why try to carry it all in your head? he asks. It's so much easier to put down your ideas in black and white. Once you have the basic plan before you, you can refer to it again and again and make any changes that occur to you.

Mark off your paper into convenient squares, advises Mr. McCalla. Twenty rods to the inch is a suitable scale. When this is done put in your house, barn, shelterbelts and other permanent fixtures. What about your poultry house, granaries and hog house? Can they be moved to improve the set-up? The same goes for gates, paths and fences. Have they been constructed for convenience and step saving, or have they just grown into their present posi-

Solution to last month's puzzle

O	R	A	L	E	F	T	A	B	O	A	S	E	A								
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B	A	I	T	A	N	U	R	A	O	I	L	E	R	S	O	A	P				
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				A	R	A	B	A	L	A	T	E	S	T	O	A					
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tion? Is your garden in the best place? What about more shelterbelts, and where will you put them? All these and many other questions occur once you have something definite before you.

All the time you are planning, keep in mind that you are working towards something permanent. It is not something you can hope to complete this year or next. Next year you will add this, the following year that, until gradually your ideas take shape and the farmstead of your dreams becomes reality. If guidance is desired, useful information about planning the farmstead can be found in the Alberta Department of Agriculture's booklet "Farmstead Planning." Copies can be obtained from District Agriculturists or by writing to the Extension Service, Alberta Department of Agriculture, Edmonton.

Operating tractors the safe way

A PRELIMINARY list shows 30 Saskatchewan farm people killed by tractors in 1952. This is not many when the large number of people using tractors is considered, but you may be on the next list. These deaths are called accidental but most of them could have been prevented if the operator had followed safety rules. The survey shows 60% of the deaths were caused by tractors upsetting. Tractors can upset for many reasons. A list of the most common reasons is as follows:

1. Turning corners at high speeds.
2. Brakes not balanced so the brake on one side operates before the other, throwing the tractor to one side.
3. Driving the tractor too fast over rough ground so the operator, in his efforts to hang on, loses control of the tractor.
4. Trying to take short cuts over steep banks and ditches.
5. Making "Jack rabbit" starts when the tractor is pulling a heavy load causing the tractor to go over backward.
6. Hitching loads to some part of the tractor other than the draw bar. This makes the possibility of the tractor overturning backward very much greater.

Several other people are killed each year by being run over by a tractor. This can happen when the operator allows the following unsafe practices:

1. Hooking up implements by backing the tractor while standing on the ground.
2. Riding on the tractor draw-bar or fenders.
3. Allowing others to ride on the tractor.
4. Allowing children to operate tractors.
5. Allowing children to ride on, and play around tractors.

If the operator is conscious of these dangers and always takes

time to be safe, the number of people killed and hurt by tractors will be reduced.

Tax guide now ready

THE 1952 edition of the Farmer's and Fisherman's Income Tax Guide is now avail-

able to the public, it has been announced by the Honorable Dr. J. J. McCann, Minister of National Revenue. The Guide is designed to assist farmers and fishermen in the preparation of their 1952 Income Tax returns.

Farmers or fishermen who wish to obtain a copy of the Farmer's and Fisherman's Guide can get one from their nearest District Income Tax

Office. A copy of the Guide may also be obtained at any rural Post Office in Canada.

Insects do not have blood vessels. The circulating fluid flows freely throughout the body cavity except while it is being moved by the dorsal vessel or heart.



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2. New World Oil has under option over 2,000 acres of potential Water-Flood lands in Southeastern Kansas, on which geologists estimate a recovery of an estimated 5,000,000 barrels of crude oil.
3. The 2nd of a 3 well exploratory program in Northeastern Colorado, the No. 1 Kibbns is now coring below 4,543 feet. This is a 5,000 ft. Cretaceous sand test. The No. 1 Stratton is a location for a similar test.
4. New World Oil will commence drilling within the next sixty days a 2,800 ft. Pennsylvanian well in the Hamilton Dome Field of Hot Springs County, Wyoming. This is in one of the better fields of the famed Big Horn Basin.

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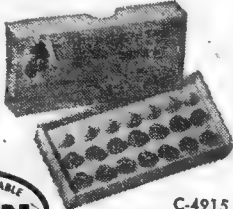
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Irrigated pastures produce big yields

(From Dominion Experimental Station, Swift Current, Sask.)

IRRIGATED pasture experiments at the Swift Current Station produced heavy yields during 1952. Six grasses in combination with alfalfa and White Clover were tested. The grasses used were Intermediate wheatgrass, Crested wheatgrass, Russian wild ryegrass, Reed Canary grass, Brome grass and Timothy. These crops were seeded in 1950, and grazed with rams during 1951 and 1952. Seven irrigations were applied during 1952.

Intermediate wheatgrass produced the most pasture during 1952, a total of 9,950 pounds of air-dry forage per acre. It was followed by Timothy and Brome grass, each with 8,760 pounds, Russian wild ryegrass — 8,570 pounds, Crested wheatgrass — 7,040 pounds, and Reed Canary — 6,000 pounds per acre. The carrying capacity varied from 13 sheep per acre on the Intermediate wheatgrass and Russian wild ryegrass, to 9 on the Reed Canary grass for a 155-day grazing season.

Russian wild ryegrass produced the most protein, an average 24.6% content that provided 2,100 pounds of protein per acre. Intermediate wheatgrass had a 21% protein content and produced 2,000 pounds of protein per acre. Timothy and Reed Canary grass had the lowest protein content, only 18.8 per cent.

The fields were rotated so that each crop was rested for from three to five weeks between grazings. This practise produced a good reserve at all times, as well as producing feed of exceptionally high quality. In order to keep growth from becoming too mature, it was ne-

cessary to take a hay crop from the Timothy and Crested wheatgrass during July. Each field was grazed four times during the summer.

Bloat occurred on the Crested wheatgrass during the July and August grazings. It is believed that this was caused by the alfalfa which grew much faster



than the grass, which made it very easy to graze. No case of bloat was observed on any other crop even when the grass was covered with dew.

On the basis of this test it appears that Intermediate wheatgrass and Russian wild ryegrass can be recommended for irrigated pasture. The first is recommended because of its high yield of dry matter and its steady growth from early spring until late fall; the second because of its high protein content, satisfactory yield and excellent carrying capacity. Although other pasture practices have not been tested, a rotation which allows about one month between grazings has produced well at the Swift Current Station during 1951 and 1952.

Sask. course on rural electrification

A SHORT course on rural electrification will be conducted March 2 to 14, 1953, at the Canadian Vocational Training School, Saskatoon. It is designed for farmers on the power line and with private plants; it is not a course to train licensed electricians.

This rural electrification course will include:

Principles of electricity: volts, amps, kilowatts, meter reading.

Uses of electricity on the farm. Planning and cost estimating.

Simple wiring, types of wires, circuits, demonstrations, wiring regulations.

Selection and maintenance of motors and equipment, e.g., grain grinders, milkers, home freezers, household appliances, water systems and other labor-saving devices.

Electrification of the workshop, use of welders, compressors and other shop tools.

Lighting the house, farmstead and buildings.

This course is part of the Dominion-Provincial Youth Training Program conducted through the University of Saskatchewan, and is under the direction of the Minister of Education, Regina, and the Minister of Labor, Ottawa. The Saskatchewan Power Corporation and electrical firms are co-operating in conducting this course.

This course will consist of lectures, demonstrations and practical periods. Young men of sixteen to thirty years of age are eligible to attend. As only a limited number of students can be accepted, each student will be notified as to whether his application has, or has not, been accepted. There is no tuition fee. All tools and materials are provided. Students will require pen, pencil, note books, screw driver and a pair of pliers. A list of boarding houses will be available on registration.

Further information and application forms may be secured from L. C. Paul, Extension Department, University of Saskatchewan, Saskatoon, Sask.

Answers to Canadian Quiz

1. Matthew Whitworth, Baron Aylmer.
2. Sir Charles Bagot.
3. As governor-general he prepared Canada for the self-government which she received not long afterwards from Lord Elgin (1847-1854).
4. Sir Adam Beck.
5. Robert Bell.
6. Lord Bennett.
7. Sir Robert Borden.
8. He was chief Canadian representative at the Inter-Aligned Peace Conference.
9. Louis N. Brien.
10. He became a Cardinal, in Canada, on May 25, 1914.



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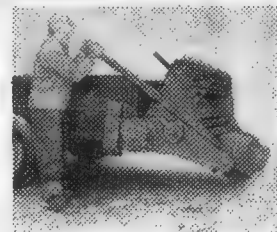
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Farm and Ranch Housewife

DEVOTED TO THE INTERESTS OF THE RURAL WOMEN OF WESTERN CANADA

Why not eat the cheaper meats

NOW that the cooler weather has come and you're cooking roasts again, why not try cooking some cuts from the front quarter of beef? There will be plenty of beef available during the coming months and consumers can take advantage of many good buys. The home economists of the Consumer Section of the Canada Department of Agriculture say that roasts from the front quarter are economical and every bit

as rich in food value as the more expensive cuts.

The front quarter of beef usually refers to the blade, cross rib, shoulder or chuck roasts. Blade roasts are next to the rib section and take their name from the blade bone. This bone may be left in the roasts or taken out and the meat rolled. Next to the blade roasts are the cross-rib roasts which are sometimes called short-rib roasts, but are not to be confused with

the prime rib roasts which come from the rib section. The cross-rib roasts are taken from the meatiest part of the front quarter. The shoulder or round shoulder roasts are, as the name implies, from the shoulder section. Because they have a large proportion of bone they are usually boned and rolled. Chuck roasts which are next to the neck are less tender than the others. The one important thing to keep in mind when cooking these less tender cuts of beef is to use moist heat and long slow cooking.

Pot Roasts

Here are some directions which will ensure a mouth-watering pot roast. Buy a chuck, blade or cross-rib roast and brown it well on all sides in a heavy pan or Dutch oven in

a small amount of fat, about four tablespoons. Add two tablespoons of water and cover tightly. Then cook in a moderately slow oven of 325° F., until the meat is tender, allowing 20 to 25 minutes to the pound, or cook on top of the stove allowing 15 to 20 minutes to the pound, not forgetting, of course, to brown thoroughly before covering.

For a spicy flavored pot roast, season the meat before browning with chili powder, mustard, curry powder, or horseradish. Diluted tomato soup, chili sauce or catsup added during the cooking also give extra flavor.

For a complete meal in one, try cooking vegetables around the pot roast. Vegetables such as carrots, potatoes, onions and turnips may be peeled and cut in serving-size pieces and added to the pot roast about an hour before the end of the cooking time. Do not forget that the stock left in the pan makes rich brown gravy. The men folk especially, will enjoy this kind of dinner and will ask for second helpings.

Beef Stew

How long is it since you have had a good beef stew... tender and juicy and rich in flavor? A stew is the best way to use these less tender cuts from the front quarter and at the same time makes a fine tasting, one-dish meal requiring a minimum of pot and plate washing. Of course, meat can usually be bought cut-up as stewing meat from the butcher.

The stew family is really an international group. There is the well-known Irish Stew, English Beef and Kidney Pie, French Ragout and Hungarian Goulash, to mention just a few. Many of these stews are made from beef from the shoulder section and varied indeed are the seasonings, that go into them. For example, the French season the meat with salt, pepper and spice and allow it to stand several hours in vinegar or a little red wine to saturate the pieces. The Hungarian stews are highly spiced with paprika or peppercorns and often are cooked in meat stock, sour milk or sour cream.

The basis for all of these is beef cut in two-inch cubes or smaller, seasoned with salt and pepper, browned in fat covered with liquid which may be tomato juice, meat stock or water and then simmered slowly until tender, about two hours. The flouring and browning of the meat makes for a rich flavor and gives that appetizing color we all find so pleasant. Adding vegetables during cooking is also a time-saver and they are at their best when added when the meat is almost tender.

Stew does not have to be monotonous—top it with dumplings, pastry or tea biscuit dough. For a change, the home economists suggest you try colorful biscuit or pastry pinwheels next

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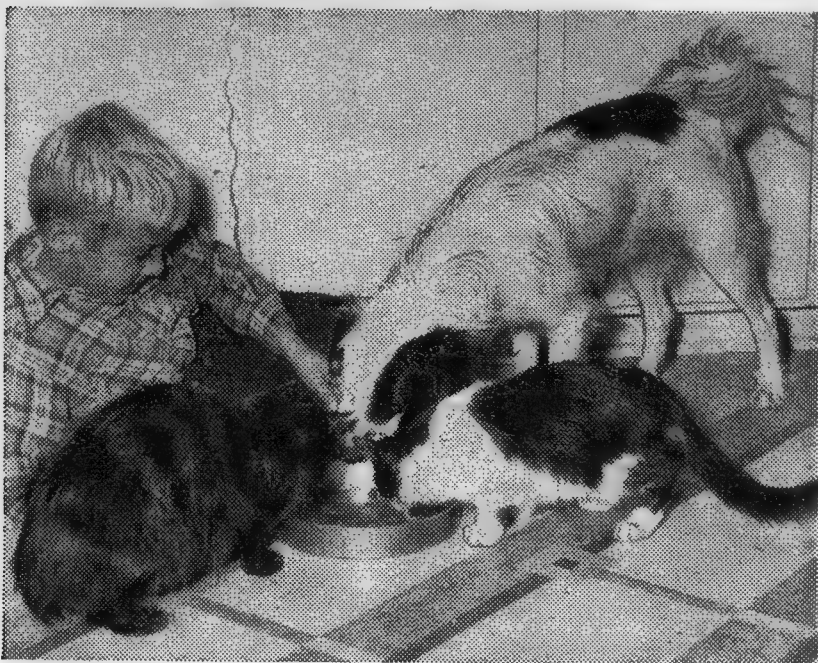
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NAME _____ ADDRESS _____
CITY OR TOWN _____ PROVINCE _____

Youngsters need pets



By LOUISE PRICE BELL

EVERY child should have pets, and families who live in the country realize that more than their city cousins. Cats are necessary in order to keep the mice away, dogs are a part of any farm, and sheep, cows and horses often turn into wonderful pets. But the small domestic animals, principally dogs and cats, are the ones boys and girls enjoy the most and since they do, they usually like to take the responsibility of feeding and caring for them. And they should, because that is one chore they can take off mother's hands that will lighten her work and at the same time bring them pleasure.

Often small Sonny will dawdle over his task of feeding

the pets that currently occupy his heart, but unless there is something very important for him to do, try and be patient and let him spend time with the pets; they mean much to him. He can make sure that the water dishes are always kept full of fresh, clean water, for that is important to the animal's welfare, and if there are younger children he can teach them many things about the pets.

Children and pets belong together and the adults who are kind to animals are usually the ones who were reader in homes, probably farm homes, where pets were in integral part of their lives.

Children's playtime

By LOUISE PRICE BELL

TO prevent the children's chalk and crayons from breaking, wind short strips of gummed tape around each in a new box, leave the point exposed for use, and when the end is worn down, unwind one strip.

Make checkers for your youngsters from quarter-inch rounds sawed from an old broom handle. Paint half black, half red with lead-free paint.

For homemade game boards requiring numbers, cut the numerals from a large calendar. Paste these to the board, and coat the entire surface with clear shellac.

Button your toddlers into their sweaters backward, and

time you have stew. To make them, roll out rectangles $\frac{1}{4}$ inch thick of either tea biscuit or pastry dough. Sprinkle with chopped parsley and grated carrot, roll up as you would a jelly roll and bake on top of the stew in a 400° F. oven the last 25 to 30 minutes of cooking.

they won't be able to shed them when they get warm playing outdoors on cold days.

A discarded radio cabinet, with its insides taken out, makes a fine dollhouse for the children. Can be divided into rooms, furnished with dime-store or home-made furniture, papered and carpeted with scraps or samples.

Put a coat of colorless nail polish on the soles of children's white shoes. White polish will wipe off the soles more easily, and the shoes will keep their new look longer.

An old cooky sheet with an edge around it is ideal for children to step on when removing their dripping overshoes. The cooky sheet will catch all the water and save your floor from muddy tracking.

To dry shoes quickly, stuff them with old newspapers to help them keep their shape; turn them on their sides so the air can circulate all around the soles—usually the wettest part.

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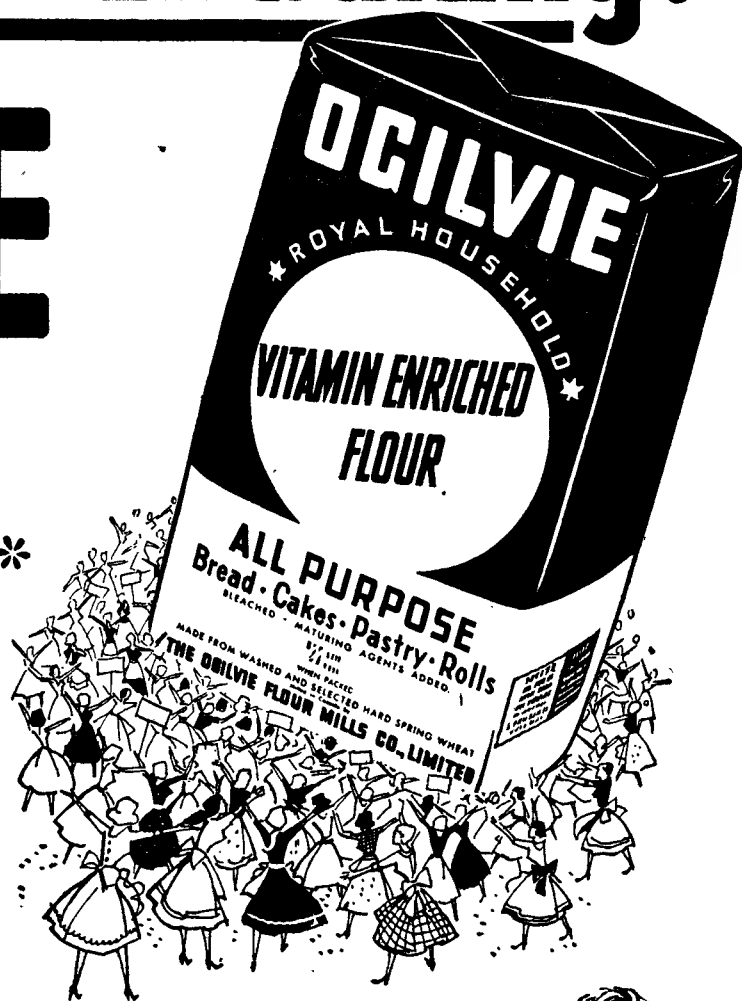
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Let's Ask Aunt Sal...

*True friends should help each other,
In every sort of way.
Amid that is my ambition,
So write to me today.*

AS we told you in last month's column, many letters directed to this dept. during 1952 are not technically what one might term, "Homemaking queries," so we have had to leave them out at date of publication. Whenever you are in doubt as to the fitness of your question enclose a "Stamped, Self-addressed Envelope" and you'll get a private reply sometime during the following month.

Also here is another pointer: When you want information about a certain manufacturing or publishing firm, then write to the Secretary of the Chamber of Commerce, situated in that city and he will furnish you with the desired information. I have checked with the chamber of commerce of different cities and they assured me this was true. That is in line with their work and they have facts at their fingertips... while I have to do a lot of writing and research to obtain such help for you. As an illustration of this, see first question below.

Q.: Can you give me the address of a firm in British Columbia that makes mattresses? (Repeat from Dec., '52.)—Mrs. L. W., Nelson, B.C.

A.: (Contributed by Mrs. H. L., Aldergrove, B.C.) Advance Mattress & Spring Co., 1838 W. Broadway, Vancouver, B.C.

Q.: I want to know where to get the metal caps (without the rings) for the many odd-sized sealers that I have on hand?—Mrs. S. J., Caslan, Alta.

A.: If your local grocer does not stock these, then write to

any large grocery store in the city nearest to you.

Q.: Do you know where I could get some Irish moss? It is a yellow, dry seaweed and when spaked and cooked in milk thickens like cornstarch. The drug store at which I used to obtain it has gone out of business.—Mrs. A. A., Millet, Alta.

A.: I contacted my druggist about this and he tells me that he hasn't stocked this in its old form for three years because there was very little demand for it and it went "bad" on him. He tells me that if you inquire at any good drug store they can order it in its new form under a new trade name.

Q.: I have a chenille bedspread that has faded some and I wondered if I could redye this and how to go about it?—Mrs. D. E., Hazlet, Sask.

A.: I'm too lazy, or something, to attempt such a job myself, but one can get reputable dye-removers and dyes that can be used at home. For a large article as a bedspread the job can be handled best in the washing machine. I had one done by a professional dyer for less than \$4.00, which I counted money well spent for a good bedspread. Inquire at a dyers in your nearest city if interested.

Q.: Could you give me the recipe for making soda crackers like you buy?—Mrs. B. B., Horsehead, Sask.

A.: This question got very popular billing in this column about three years back, but possibly Mrs. B. has become a reader since then. I only tried this recipe once and those I made certainly weren't on a par with those we buy. Since then one of you kind readers sent me in this trick: Before placing the dough on the bake pan heat the pan and that makes the crackers "crack".

Soda Crackers

1 cup butter
4 cups flour
1 tsp. salt
1 tsp. baking soda

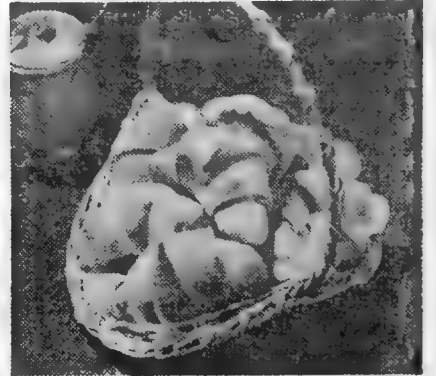
Mix thoroughly. Pinch off one small piece at a time, roll each piece very thin and cut into desired shape. Prick with a fork and bake in moderate oven.

Note: If any of you readers have had really good success with making soda crackers I'd welcome your comments and advice.

Q.: I wonder if any of your readers have any small wish-bones (from pheasants or partridges, etc.) that they would like to send me for use in some of my handicraft work.—Mrs. M. Lowther, Box 147, Readlyn, Sask.

Note: Do not communicate with me about this, but write Mrs. L. directly. This lady has been a faithful contributor to this page and has sent in many good ideas so here is a chance to repay some of her kindnesses.

4 delicious treats ...make them from One Basic Dough!



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Needs no
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BASIC ROLL DOUGH

Scald

1 cup milk
5 tablespoons granulated sugar
2½ teaspoons salt
4 tablespoons shortening

Remove from heat and cool to lukewarm.

In the meantime, measure into a large bowl

½ cup lukewarm water

1 teaspoon granulated sugar

and stir until sugar is dissolved. Sprinkle with contents of

1 envelope Fleischmann's Fast Rising Dry Yeast

Let stand 10 minutes, THEN stir well, stir in cooled milk mixture and

½ cup lukewarm water

Stir in

3 cups once-sifted bread flour

and beat until smooth and elastic; work in

3 cups more (about) once-sifted bread flour

Turn out on lightly-floured board and knead dough lightly until smooth and elastic. Place in a greased bowl and grease top of dough. Cover and set dough in warm place, free from draught, and let rise until doubled in bulk. Turn out dough on lightly-floured board and knead lightly until smooth. Divide into 4 equal portions and finish as follows:

1. PARKER HOUSE ROLLS

Roll out one portion of dough on lightly-floured board to ¼-inch thickness; cut into rounds with 3-inch cutter; brush with melted butter or margarine. Grease each round deeply with dull side of knife, a little to one side of centre; fold larger half over smaller half and press along the fold. Place, just touching each other, on greased cookie sheet. Grease tops. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 6 rolls.

2. CLOVER LEAF ROLLS

Cut one portion of dough into 8 equal-sized pieces; cut each piece into 3 little pieces. Shape each little piece of dough into a ball and brush with melted butter or margarine; arrange 3 balls in each greased muffin pan. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 8 rolls.

3. FAN TANS

Roll out one portion of dough on lightly-floured board into a rectangle a scant ¼-inch thick; loosen dough, cover and let rest 5 minutes. Brush dough with melted butter or margarine and cut into strips 1½ inches wide. Pile 7 strips one upon the other and cut into 1½-inch lengths. Place each piece, a cut side up, in a greased muffin pan; separate the slices a little at the top. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 8 rolls.

4. CRESCENT ROLLS

Roll out one portion of dough on lightly-floured board into a 14-inch round; brush with melted butter or margarine and cut into 12 pie-shaped wedges. Roll up each wedge of dough, beginning at the outside and rolling toward the point. Arrange, well apart, on greased cookie sheet; bend each roll into a crescent shape. Brush with melted butter or margarine and sprinkle with salt. Cover and let rise until doubled in bulk. Bake in a hot oven, 400°, about 12 minutes. Makes 12 rolls.

The Dishpan Philosopher

OF all the ills that plague mankind a worse one would be hard to find than loss of health that sets a life apart from common daily strife. When discontented with my lot I sometimes stop and take a thought of just how it would be to lie in bed while the world rushed by. I just can't bear to contemplate the agonies of such a fate. Imagine it—to be shut out from bustling movement all about. Or even just to be so ill that only with determined will I could contrive to up and do the jobs I am expected to.

It takes no Pollyanna mind in pleasures of good health to find a lot of things to compensate for any wayward turns of fate. It seems as though life's greatest wealth lies not in money but in health.

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EVERY TIME

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in hardest water ... and cleans in
half the time! Makes pots, pans,
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floats grease and grime away. Its
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New Old Dutch Sanitizes
and Deodorizes As It Cleans
MADE IN CANADA

Pork — Spareribs — Sweet Potatoes



By LOUISE PRICE BELL

RIB-STICKING meals are in order so try your hand at the recipes given here, making the Fruited Pork Chops first and serving them on a bed of rice, then barbecuing some spareribs, and with either of those, or with ham, serve the sweet potato casserole.

Fruited Pork Chops

- 4 pork chops
- 1/4 cup vinegar
- 1/2 cup catsup
- 1 nine-ounce can of crushed pineapple
- 1 tblsp. soy sauce (not necessary)
- 3 tblsps. brown sugar
- 2 cups cooked rice

Brown chops in skillet, after flouring and seasoning. Combine remaining ingredients (except rice) and add to chops in skillet. Cook 1 1/2 hours spooning sauce over chops occasionally. Serve on cooked rice, with any extra sauce in dish on platter.

Barbecued Spareribs

- 2 sides spareribs
- Salt and pepper to season
- 2 tblsps. lard
- 1 large onion
- 1/4 cup catsup
- 2 tblsps. vinegar

- 1 tsp. sugar
- 1 tsp. Worcestershire sauce
- 1/4 tsp. chili powder
- 1/4 tsp. celery seed

Cut ribs into serving pieces, season and brown in lard. Slice onions and mix catsup with rest of ingredients. Put half ribs in skillet, cover with half the onions and half the barbecue sauce then add the rest, cover and simmer until tender. (If you have a pressure cooker, cook 15 minutes at 15 lbs. pressure and reduce pressure slowly according to directions for your cooker.

Marshmallow Sweet Potato Casserole

- 4 cups mashed sweet potatoes
- 1/2 cup unsulphered molasses
- 3 tblsps. melted butter
- 1/2 tsp. grated orange and lemon rinds
- 1/2 tsp. salt
- Marshmallows

Mix first 6 ingredients and pour into casserole. (If potatoes seem a little dry, moisten with milk). Dip marshmallows in molasses and arrange over potatoes and bake 30 minutes at 350° F. and make sure marshmallows are brown.

Meat and good health

MARKED evidence of dietary deficiency of protein is being reported by nutrition workers in some Eastern Canadian cities. At the Montreal Diet Dispensary where a representative of the Council of Canadian Beef Producers (Western Section) visited recently, it was revealed that nearly all patients and clients served from Montreal's lower third income bracket show symptoms of insufficient food protein; about 35% bear evidence of vitamin C deficiency, 35% in the case of riboflavin, 33% for thiamine and 3% show vitamin A deficiency. Of the mineral elements, iron and calcium are the ones most commonly deficient. Workers there see state of nu-

trition as underlying all human health and welfare and stated they had been impressed by the percentage of tuberculosis patients who have had vitamin A and vitamin C deficiencies in their histories.

Reporting on the work of the past year (1951), Miss Nan Garvock, executive director of the Montreal Diet Dispensary states, "The scarcity of meat in our peoples' meals is cause for alarm". Referring to nutrition research she added, "It not only shows the important place it (meat) has but gives emphasis to the fact that meat cannot be entirely substituted by other protein foods".

Always disconnect the current before attempting electrical repairs.

Here's An Easy,
Pleasant Way To Help

**PREVENT
COLDS**



At the
first symptoms
Relax in a
Soothing

HOT MUSTARD BATH

Mix 2 or 3 tablespoons of mustard in a little cold water and pour into hot bath. After bathing, give yourself a brisk rub-down ... then off to bed for a good night's rest. Your muscles will relax with relief!

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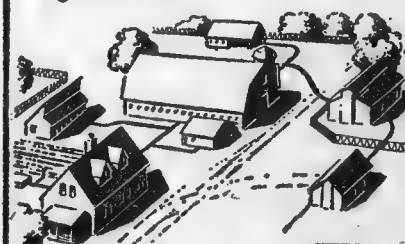
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Aunt Sal Suggests . . .

The winter's partly over,
And we're looking towards the
Spring:
And we're looking, too, for Handy
Hints,
For help in every thing.

BECAUSE newspaper columns have to be written far ahead of the date of publication, this is the first time since Christmas that I've sat down to have my monthly chat with you . . . whom I like to call, "My Friends."

If you'd seen the mountainous stack of beautiful cards and cheery letters that came to my door this past yuletide you'd realize, as I do, that it isn't only when they need information about household problems that the friendly readers of the Farm and Ranch Review, write to this lady. I was really touched by your sincere greetings and I thank you all for your kindness to me.

Many of you commented on the write-up by Kerry Wood that appeared in the pages of the December issue and told me you seemed, after reading that, to feel that you knew me better. It was a very nice "piece" I thought . . . not because of the subject, but because Kerry Wood is himself a very nice "guy" so, of course, he would only write nice things . . . about me or anyone else. Maybe I should tell you that when my husband, Oscar, read that piece he laughed and remarked, with a teasing chuckle: "My, she sounds nice . . . I'd like to meet the lady." He should know the same lady pretty well by this time, seeing that today is our 28th wedding anniversary.

No matter what type of job we tackle in this jolly old world of ours, we being all very human, fall down on some part of it every so often . . . and goodness knows I'm no exception. I know there are some of your questions that I haven't answered to your satisfaction. I know there are some of your questions (three to be exact that are still hanging over from last year), and yet not one of you have taken me to task for falling down on the job. In fact I feel like yelling this from the rooftops . . . You readers have written me thousands of letters in 1952 and not one unkind letter have you written. I'm just wondering how many business people can say that. Now I'll stop my meandering about and get down to some explicit facts and figures.

Mrs. E. J., of South Edmonton, Alberta, wrote me recently asking about a cookie (or confection) of German origin that has a delightful ginger flavor (she thinks it has preserved ginger in it) . . . also some green and red cherries and raisins. It is baked in a flat pan about 2 inches thick; cut in squares and the whole cube covered with semi-sweet chocolate (not

icing) I'm quite sure that if I spent hours checking through my umpteen cook books I could run this recipe to earth . . . or a sister to it anyway. In fact, I'm placing below a recipe that is, we'll say, "a cousin" to it. But aren't there some German cooks among you readers who really have this recipe cached away either in your files or in your heads? If so, be good pals and send it on, to swell our recipe collections, eh?

Coated Ginger Creams

- 1 cup shortening
- ½ cup white sugar
- 1 tsp. ginger
(or ⅓ cup cut up ginger peel)
- 1 tsp. cinnamon
- 2 egg yolks
- 1 cup molasses
- ½ cup milk
- 3½ cups cake flour
- 2 tsps. soda
- ½ tsp. salt
- 1 cup raisins
- ½ cup diced maraschino cherries
- ½ cup finely chopped walnuts

Cream shortening, sugar and egg yolks. Add molasses and milk and blend. Sift together salt, flour and soda. Add a little flour to fruits and nuts and add to batter. Spread ½ inch thick in well greased pan. Bake in oven 12 minutes at 350° F. temperature. Cut in squares and roll in confectionery sugar or dip into melted semi-sweet chocolate.

Our Readers Tell Us:

Mrs. S. D., Spiritwood, Sask., says she read this in a book lately: "To resilver a mirror, place a sheet of tinfoil over front of mirror and allow 3 drams of quicksilver to each square foot. Rub with a piece of buckskin (I should think chamois would do) until foil becomes brilliant. Lay a piece of paper over glass and weight it down for several hours and foil will adhere to glass. (I haven't tried this, but will in near future.)."

Mrs. W. H., of Taber, Alta., says that she protects her large pieces of silver (like cream and sugar sets) inside a large cellophane bag to keep them gleaming bright until occasion to use them again.

Mrs. R. A., Lethbridge, Alta., tells us that she saves all her ice cream cartons and other such containers and places foods in these to place in her home freezer.

I feel I should tell you that Santa brought me a home freezer last Christmas and, as I do with every new household appliance I get, I am making many home tests, not only for my own satisfaction, but so I can pass on my findings to you readers. So I will now welcome either questions or advice regarding the use of the home freezer.

Bye bye for now . . . and every good wish.

Aunt Sal.

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MARASCHINO-BANANA CAKE

- 2 cups once-sifted pastry flour
- or 1¾ cups once-sifted all-purpose flour
- 2½ tsps. Magic Baking Powder
- ¼ tsp. baking soda
- ½ tsp. salt

- 10 tsps. butter or margarine
- 1 cup fine granulated sugar
- 2 eggs, well beaten
- 1 cup mashed ripe banana
- ½ cup milk
- 1 tsp. vanilla

Grease two 8-inch round layer-cake pans and line bottoms with greased paper. Preheat oven to 375° (moderately hot). Sift flour, Magic Baking Powder, baking soda and salt together three times. Cream butter or margarine; gradually blend in sugar. Add well-beaten eggs part at a time, beating well after each addition. Combine mashed banana, milk and vanilla. Add flour mixture to creamed mixture about a quarter at a time, alternating with three additions of banana mixture and combining lightly after each addition. Turn into prepared pans. Bake in preheated oven 25 to 30 minutes.

MARASCHINO FILLING AND ICING: Cream 5 tsps. butter or margarine; add few grains salt. Work in 2¾ cups sifted icing sugar alternately with 2 tsps. lemon juice and about 3 tsps. heated syrup from maraschino cherries; beat in ¼ tsp. vanilla. Take out about a quarter of the mixture and beat into it ¼ cup well-drained cut-up maraschino cherries and about ¼ cup sifted icing sugar; put cold cakes together with this mixture. Cover cake with the remaining icing and decorate top with diagonally-cut serrated banana slices and drained halved maraschino cherries.



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Strawberries grow well in prairie gardens

By H. F. HARP

OF all the "small" fruits or "soft" fruits as they are called in England, the strawberry is most esteemed. Prairie gardens produce fine samples of this delicious fruit where its cultural requirements are understood and supplied.

The main consideration is moisture. Without a supply of moisture satisfactory crops of strawberries cannot be regularly produced.

A well-drained part of the vegetable garden is prepared to receive the strawberry plants by first making sure it is completely free of perennial weeds. Summer fallowing is recommended where perennial weeds are a problem. In any case, summer fallowing will increase the available moisture, enabling the young plants to get away to a good start. The land must be in good heart as strawberries enjoy deep, rich soils in which roots may penetrate freely to cool, moist soil.

After summer fallowing a dressing of well-rotted barnyard manure is ploughed in leaving the surface of the soil in a rough condition over winter. As soon as the melted snow water has seeped away and the soil dried enough to permit comfortable working it is recommended that an application of Ammonium Phosphate (11.48.0) at the rate of 2 ozs. per square yard be applied. The bed is then levelled and made firm. All is now ready for the planting and the sooner the young plants are set out, the more readily will they become established before hot weather retards growth.

The "matted" row system is preferred to the "hill" system in prairie gardens. On the farmstead where an acre or more may be devoted to vegetable crops and space is not limited, strawberries may be planted one and a half feet apart in rows spaced 4 feet apart.

Order Early.

If plants have to be purchased from a nursery man, they should be ordered early. In some years, when spring comes early, it is often possible to plant during the third week of April. It is well to keep in mind that plants set out in April do better than those planted in May. However, the governing factor is the weather and condition of the soil. There is nothing gained by planting in sticky soils; therefore let the condition of the soil be the guide endeavoring to get the plants into the ground as soon as possible after mid-April.

Should the plants be received from the grower before the land is in shape, they had best be "heeled" in. A trench is taken out in a sheltered spot in the garden, deep enough to accommodate the roots without doub-

ling them up after they have been spread out. If the plants received are tied in bundles they must be untied and spread out in a single row.

Bundles of plants carelessly heeled in will dry out if not properly covered or will rot if buried too deeply in cold, wet soil.

If home-grown plants are available from an old plantation that is being discarded, they should be selected for youth and vigour. Ideal plants are one-year-old crowns with a heavy growth of whitish roots. Old plants have dark colored roots and should not be used as planting stock.

Planting is done with a spade or shovel unless the stock is very small when a trowel is a more convenient tool. It is important that the roots be well spread out to allow the soil to run between them.

Watch carefully the depth of the crowns: they should be set just at the soil level. Plants set too deeply will smother; if planted too shallow they will be exposed to drying winds. During the operation of planting every care must be taken to preserve the tender rootlets from sun and wind as untold damage can be done by careless handling of planting stock. An easy way to transport the plants is to carry a few dozen at a time well wrapped in dampened burlap.

Special Care

When the planting has been completed and water, and the whole bed is hoed over, constant attention to cultivation is important if the young plants are to make headway. The soil must not be allowed to bake, neither must weeds be allowed to develop to sap soil moisture.

Flower stalks often develop on these young plants and should be promptly removed or the burden of bearing fruit will cause a loss of vitality. In the case of vigorous ever-bearing varieties such as Gem, and where these have made heavy growth a few flower stalks may be permitted to set fruit. Under the most favorable conditions a light crop of good quality berries can be harvested from these new plants in late summer.

Many complaints were heard last year of the poor quality of strawberries. Large quantities of misshapen berries called "nubbins" were observed in many plantations. These malformed berries are the result of either frost, when plants are in bloom, cold winds or excessive heat. By allowing the winter mulch to remain on until growth commences flowering will be retarded, lessening the danger of frost damage.

As runners develop they should be held in position by pegging them with a wire staple

or by placing a stone or clod of earth on the vine. When roots begin to penetrate the soil from these runners, the position of vine extending beyond the first runner should be nipped off. Surplus plants appearing outside the rows should be hoed out if not required. Dry weather coming after the plants have been set out will result in a poor stand unless some means of watering is at hand.

Near Water

The vegetable garden should be located near a dugout if possible so that plentiful supplies of water are on hand when needed. The easiest method of application is to plough a furrow along the headland from which are connected small furrows that have been dug between the rows. The water is turned into the furrows and allowed to run slowly until the whole bed is saturated. When the water has seeped away the trenches are filled in and the whole area well hoed. Only a thorough soaking will do any good, light springlings do more harm than good.

Some growers prefer to make a new plantation every year; others replant every second or third year. At the end of three years the bed is usually a mass of matted plants, starved and producing a poor crop of small fruits. Annual planting produces high quality fruit, reduces the weed problem and lessens disease.

The need for winter protection cannot be too greatly stressed. As with all plants that carry a rosette of leaves through the winter, the strawberry requires a mulch of straw or similar material. Straw is mostly used in prairie gardens and should be free of weed seeds. Flax straw is excellent. There is a tendency to place this covering on too early in the fall before the plants are hardened. Mid-October or early November is soon enough as by that time fairly heavy frosts can be expected.

About four inches of the mulching material will be sufficient. Heavier mulches invite trouble in the spring when the weight of wet snow will press too firmly about the crowns. The best protection possible is a light mulch of straw covered by a blanket of snow kept in place with corn stalks or evergreen boughs.

In early May most of this mulch is removed. A little may be allowed to remain around the crowns of the plants to keep the fruits clean. Some growers rake the straw into the space between the rows and leave it there for the summer. The merit of this practice is questionable although it will keep soil temperatures down and smother weeds to some extent.

Varieties most popular today include Gem, a vigorous, ever-bearing sort; Sparta, superior to Gem in quality but yielding lighter crops. June bearing varieties include Senator Dunlop, reliable and good quality; Glen-

more, a strong growing variety excellent for canning. Other varieties worthy of trial may be found in catalogues, but the above mentioned ones should be tried first.

Pests and Diseases

Strawberries have not been overlooked when it comes to Pests and Diseases. Pests are not usually alarming, but damage from cutworms can be severe in some seasons. Poisoned bait or hand picking is the approved remedy.

Leaf and root weevils are controlled by dusting with a mixture of 85% sulphur and 15% arsenate of lead. Tarnished plant bugs are partly responsible for deformed fruits. Spraying with 50% wettable DDT, using two tablespoonsful per gallon of water at ten-day intervals, starting when flower buds first make their appearance, offers the best means of control. Diseases are often present in established strawberry plantations.

Leaf spot powdery mildew, and virus are most common. Leaf spot may be controlled by spraying with Bordeaux mixture applied in mid-May and again three weeks later. Dusting with sulphur will give effective control of mildew. Virus cannot be effectively treated. Diseased plants had best be dug out promptly and burned to prevent its spread to healthy stock.

The unwelcome attentions of robins and other birds result in much spoiled fruit. Placing shallow pans of water near at hand is thought to lessen their appetites for the ripe fruit. Stringing the shining lids of tin cans over the strawberry rows will help scare them away. Complete protection is possible by covering the rows with cheesecloth or fine-meshed chicken wire.

Seasonable Hints

The house plants now are showing signs of renewed life, and the time is right to overhaul any plants requiring attention. Ferns may be divided and repotted now. Use a mixture of two parts soil, one part peat and one part sand. Well-rotted manure may be substituted for the peat if the latter is not available.

Cuttings of Geraniums and Begonias may be taken now, placing 6 cuttings in a four-inch pot of sand.

A sunny window will suit the pots of cuttings and rooting will take place in three or four weeks. They must not be allowed to become dry, neither must they be kept in a constant state of saturation.

Gloxinias and Tuberous Begonias can now be shaken out and started into growth. They are best started in a mixture of peat and sand in shallow boxes. Careful watering is necessary. Very little will be needed until leaves are formed. Too much water in the early stages of growth often causes the bulb to rot.

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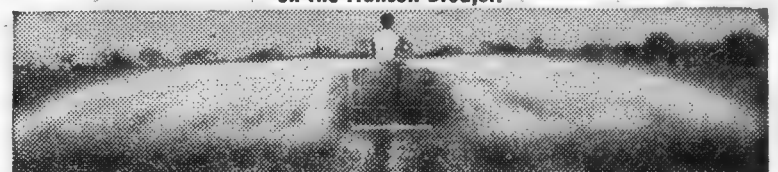
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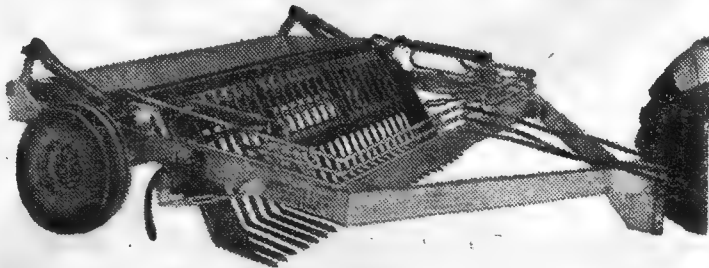
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Can a successful man be a successful Christian?

By FRANK S. MORLEY, Ph.D. (Edin.), B.D.

IT would be easy to prove that a successful man must be a Christian. For success in life implies character, the discovery of truth, and the vision of God. Unless a man achieves these three things he is a failure. Addressing the graduates at McGill, Kipling warned against the quest for power, money, and fame as ends in themselves. "Someday you will meet a man who cares for none of these things and you will know how poor you are". One has only to contrast Rhodes and Livingstone to see how true this is. Rhodes lived for power. He died a failure in himself, but insofar as he achieved greatness, it was insofar as he showed a Christian generosity. Livingstone lived a life of devoted service, fighting the slave traffic, preaching and practising the Gospel, exploring Africa, and helping the exploited natives.

We have only to look at the men who have in their lives contradicted Christian principles to see that a successful man must be a Christian. Was Judas a success? He drove a good bargain. Was Hitler a success? Was Mussolini a success? Was Costello a success? A Senate investigating committee asked him what he had done for his country. After long thought he replied, "I paid my taxes". The income tax department was so uncertain of this that they started an investigation.

The search for money or power is often compensation for some personality failure. Thus Hitler had a different boyhood. And as a young man he failed again and again in his projects. Balzac worked day and night frantically to make money. His mother had not wanted him. Up to the age of four he was left with neighbors. He was sent away to a school where his parents forgot about him. At the school he was brutally treated. So he sought compensation for the rejection by his family. Mr. Livingstone in Santa Claus' Partner is asked why he wants to make a million dollars. He replies, "In order to be able to tell the other fellow to go to the devil". So it often is.

Dangers in Business Life

So there are dangers in business life. We may come to measure all things by the standard of money value. Two men looked out on the autumnal glory of a Maine woods. One man said, "Isn't it magnificent?" "It sure is", replied his companion. "It ought to cut at so many feet per acre". We come to measure not only things but men also according to their money value. "What's he worth?" And we reply, "Ten thousand a year". So we come to be materialists. The spiritual world dies for us. Music, books, art, friendship —

everything fades away in the interest of money.

Now money has a habit of disappearing. We speak of "money melting away". That expression comes from the ancient use of salt as money—and salt is soluble. Thus Caesar's legions were paid in salt. The Central Ethiopian Bank used to keep some of its assets in salt. Trade was frequently in salt. For twelve containers of salt, that is, about forty-eight pounds, a man could buy a wife in Africa. We do well to remind ourselves of the vanishing quality of money. And the person whose only judgment of value consists of money has nothing left when his money disappears.

Distrust of Business Men

There has always been a suspicion of successful business men. A popular feeling is that to be successful a man must have cut many corners and exploited many people. Some time ago Fortune Magazine traced the historical hatred of business men. They have always been considered "Robber Barons". It is considered by many men that "most of the giant sins of our times are connected with money-making". Paul warned Timothy, "The love of money is the root of all evil".

Virtues of Success

I have found successful business men generous. Certainly there are some stingy men. But I have had a good deal of experience in collecting money for charities and without hesitation I would say that the most difficult organization to collect money from is the body composed of groups of citizens. To get money out of such corporate bodies is like trying to get blood out of a stone. I know well the response, "At a general meeting it was decided not to give donations to charities." Mean? Stingy?

On the other hand I have collected a great deal of money from individuals. I have found the man at the top the most generous and kind.

Successful business men must have faith. Business lives on credit, which is nothing other than faith. Business men must be willing to risk and that demands faith. Every investment requires faith. Abraham was the most successful business man in the Bible and he is described as a man "who went out, not knowing whither he went".

Successful business men must be honest. Certainly some cheaters and crooks do make money. But for long-term success in business one must build on honesty. "It is true that 'Honesty is the best policy'". Sooner or later dishonesty catches up with you. Never forget that CHARACTER IS PROPERTY. It is one of the

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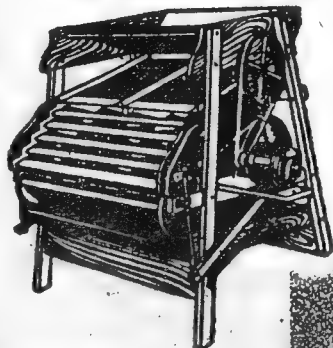
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MONEY- SAVERS

fundamental axioms of good business.

Successful business men must be unselfish. One great business man said to me that if you worked for the men, the men would work for you. An expert was called in to look over a failing industry. He said, "This plant needs conversion immediately". In astonishment they told him that they had just put in new machinery. "I don't mean new machinery", he replied, "I mean conversion of spirit. From the chairman of the Board of Directors down to the last man at the machines, you are all rotten with selfishness. Unless you can convert the hearts of this firm from selfishness you will surely fail".

Successful business men must be courteous. An old man was asked the secret of his great business success and he replied, "Just one thing which you won't believe—courtesy. I have practiced courtesy to all people, no matter who they were".

The Bible Teaching

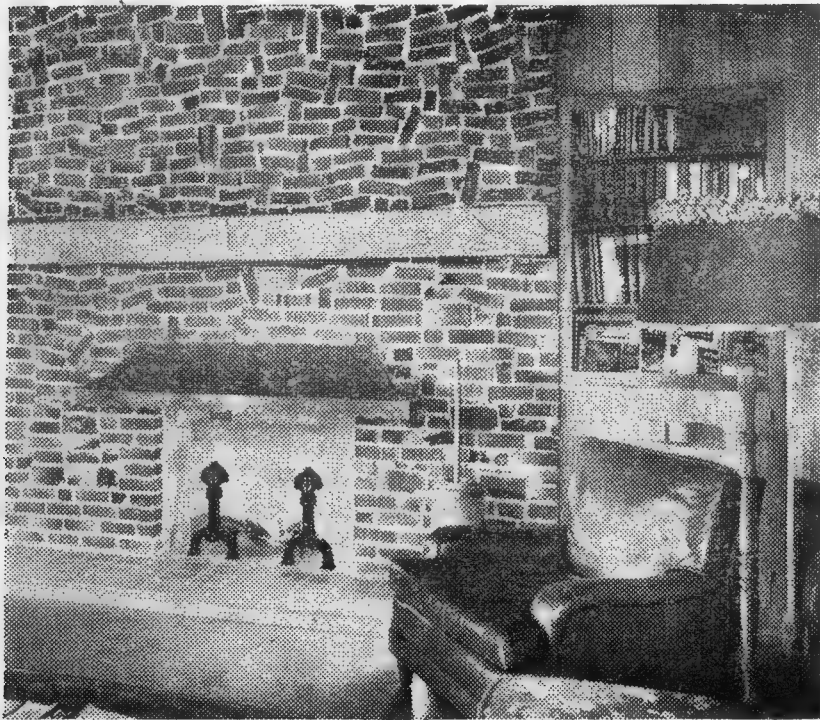
Now the Bible is practical. The Ten Commandments are not the quixotic desires of an unjust Deity. They are the revelation of the best way to live. It is just as foolish to go against them as to defy the law of gravi-

tation. They are as axiomatic as the commandment to a child, 'Don't put your hand on the hot stove'. Similarly the teachings of Christ are practical. In His Sermon on the Mount He is giving advice to men on how to be happy. "If you want to be happy, live like this". And he says that anybody who builds on His teachings is a wise man. The person who does not is a stupid man. He does not say bad, He says foolish or stupid.

Jesus had a great deal to say about material things. The most profound thing He said was, "Seek ye first the kingdom of God and His righteousness; and all these things shall be added unto you". What things? Clothing. Food. Drink. Beauty. Read Matthew, Chapter six, and see for yourself. I am convinced that the reason why democratic countries are prosperous and wealthy in contrast to the rest of the world is that we have practised in some measure the Christian faith. I believe that we can only retain our prosperity by practising that faith. Certainly there is no other conclusion to be drawn from Jesus' words.

Thus in answer to the question, "Can a successful business man be a Christian?" I reply, "Can he be anything else?"

Informal fireplaces are friendly!



By LOUISE PRICE BELL

SOME people want a fireplace but don't get one because of the cost involved, yet actually if there is a handy man in the family (and most homes have at least one) a fire place isn't as expensive as you might think! You can get ready-made flues at various prices, and laying the bricks can be done by the whole family. True, a brick-layer would arrange the bricks in neat, symmetrical rows but wouldn't you rather have one laid unevenly and be able to point to the "cock-eyed one" that three-year-old Sammy put in with his own chubby hands than have it perfect and the family feel they had no part in

creating it.


You may have a pair of andirons that have been in the family for years and the gathering dust in the attic; if so bring them out and use them to hold the wood which you've probably cut on your own land. If you haven't any andirons, don't buy any. Instead pick up four horseshoes from wherever you have the old ones, weld (or have them welded) together so that two will set at the back of the fireplace and two at the front. You'll be delighted with the "good luck" andirons and they will cost nothing, because scrap iron can be used for the cross-pieces.

ANOTHER **VioBIN** FIRST

Rids

NEW IMPROVED SKOUR-TAB

STOP
WHITE CALF
SCOURS
WITH THE MOST
EFFECTIVE TREATMENT
YET FORMULATED



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Your Druggist has RIDS. Complete treatment package \$2.00

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RIDS WILL RID YOUR CALF OF SCOURS

"ViGoR"



HOG FEEDING PROGRAM

AT

LESS COST PER POUND OF GAIN

1. "BeGiN" Sow Milk Replacer.

It is not practical or economical to feed Antibiotics to the sow to improve her milk nutritionally. "BeGiN" Sow Milk Replacer is the practical way of fortifying the piglets against nutrition deficiency, and in addition includes the best Antibiotic Supplementation. "BeGiN" can be fed to pigs two days after farrowing. Write for pamphlet.

Specially recommended for orphans, slow growers, runts.

2. "ViGoR" 'BeGiN' Booster Starter.

Commencing at two weeks of age, fortify the sow's milk by feeding this particularly palatable Booster Starter (which contains "BeGiN" Sow Milk Replacer). The required Antibiotics, B12 and other vitamins are available economically when fed in the creep. This Booster Starter should be fed for 3 to 5 weeks... then—

3. "ViGoR" PIG STARTER.

When the piglets are evidently thriving well and near weaning, switch to this less expensive Starter, which for many years has been the leader in its field. "ViGoR" Pig Starter is also fortified with Vitamins and Antibiotics.

4. "ViGoR" Booster Pig Starter P & M Supplement and "ViGoR" Pig Starter P & M Supplement.

These two Protein and Mineral Supplements are prepared for Mixers who have access to the proper grains required for Starters. The ideal grains and mill feeds are hulled oats, pulverized Barley and Shorts. Full directions are placed in each bag. The Supplements are complete in all nutrition factors, only requiring farm grown good grains, which make the all-over feed costs less per pound of gain.

BURNS
& Co. Limited



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CALGARY

BUNLAND

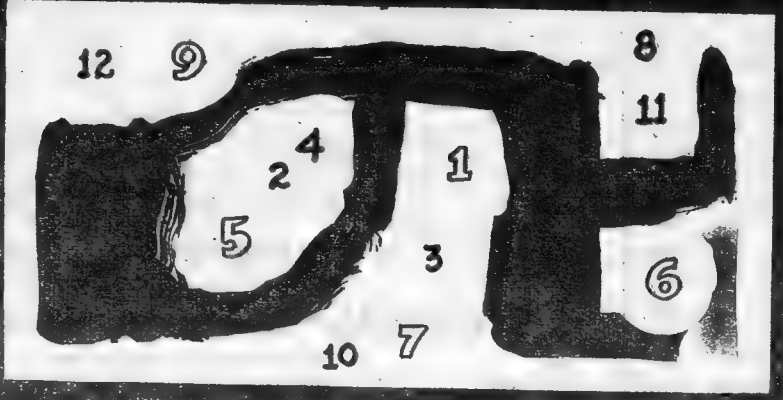
THE FAMILY ENTERTAINER

BY
A.W. NUGENT
THE WORLD'S
LEADING
PUZZLEMAKER

JOIN THE
DOTS
COUNTING
BY TWO'S.



DRAW
4
STRAIGHT
LINES, FROM
BORDER TO
BORDER, IN
SUCH A WAY
AS TO HAVE
3
NUMBERS
ON EACH
OF THE 4
LINES.



BY CHANG-
ING JUST
ONE
LETTER IN
"GRAB"
TRY TO SPELL FIVE
WORDS TO FIT
THESE DEFINITIONS:

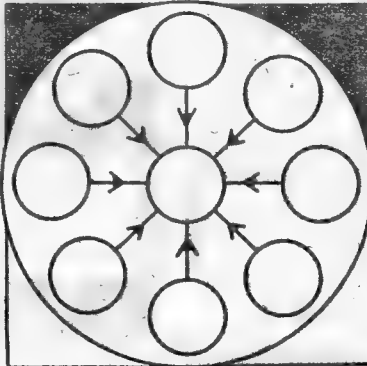
1, TO SEIZE; 2, A
COLOR; 3, TO STUFF; 4, A
CHILD'S BED; 5, ONE
OF A RACE OF PEOPLE.

A B D G M R S T W

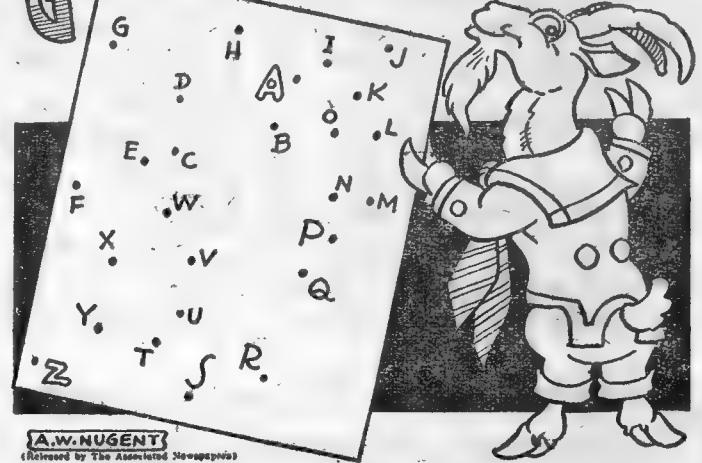
EIGHT THREE-
LETTER WORDS
CAN BE FORMED BY
PRINTING THE ABOVE
LETTERS IN THE
CIRCLES.

HERE'S THE
CATCH—
FOUR MUST READ
FORWARD AND
FOUR BACKWARD.

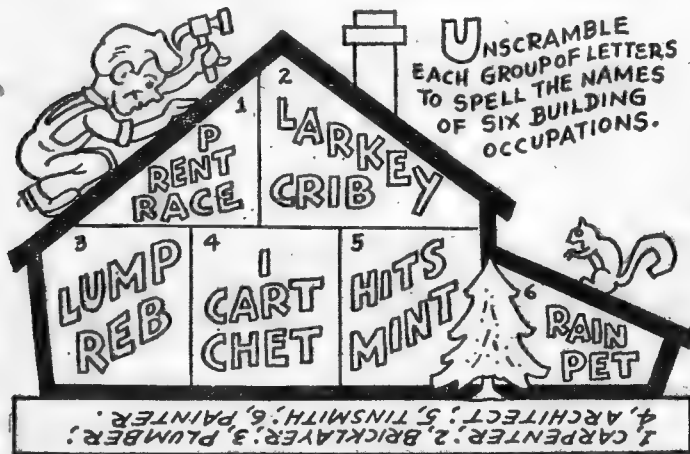
CAN YOU DO IT?



FROM A TO Z IN ALPHABETICAL
ORDER.

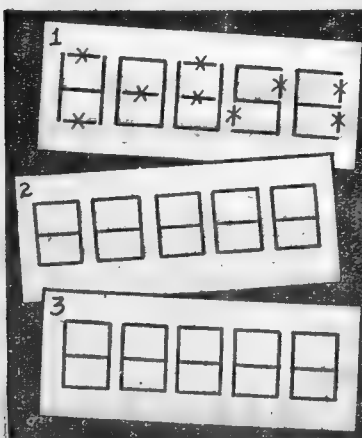


A.W. NUGENT
(Reprinted by The Associated Newspapers)

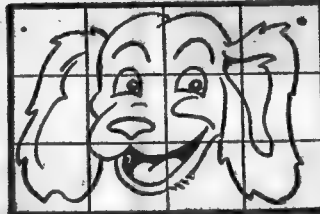


THE CROSSES IN THE BOXES IN GROUP
NO. 1 SHOW HOW WE CROSSED OUT A FEW
LINES SO THAT THOSE REMAINING WOULD
SPELL "HOUSE".

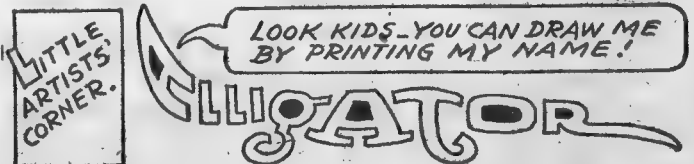
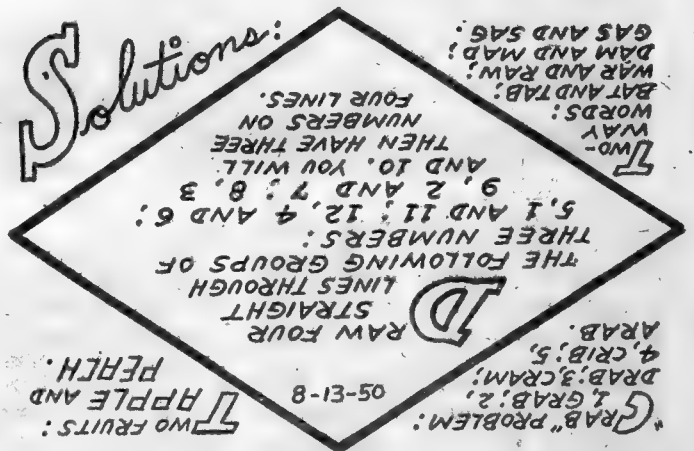
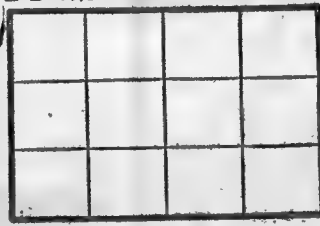
YOUR PROBLEM IS TO CROSS OUT CERTAIN
SECTIONS OF THE BOXES IN GROUP NO. 2
AND GROUP NO. 3 TO LEAVE LETTERS THAT
WILL SPELL TWO FRUITS.



DRAW ME IN THE EMPTY
GROUP OF BOXES.



MAKE YOUR LINES CUT
THE CORRECT POSITIONS.



Country Diary

NOW we are gradually wearing down winter, though winter, so far, has been unusually amiable, and February is the short month, a point in its favor. Glimmerings of spring are evidenced as the days get longer, very slightly it is true, but it shows the door to spring is not so tightly locked.

February is an interesting month in the special days that make it unique in the calendar. It starts out with Candlemas Day, so called from a religious festival of the ancient Roman church, to commemorate the

ing everything traditional and pleasing, has so far not prevailed against it.

Right in the middle of February is a pretty day, a gay day, even though a minor blizzard may be raging, hearts are warm and gay and full of happy anticipation. Valentines give one the feeling of being loved and cherished, and ever when you are edging into the middle and latter years, it is good to feel young at heart. Mom and the other girls get their share of the dainty love-gifts, but as a suggestion how about remembering dear old Dad, the uncomplaining, steady chore-performer with something that Santa did not think of?

Then somewhere in the late part of the month is Shrove Tuesday, not a fixed festival, but a remnant of tradition, coming the day before the beginning of Lent—forty days of repentance set by the ancient Church. Being a special sort of delicacy, pancakes were eaten in large quantities on that day before the religious were shriven from their sins on Ash Wednesday, and from then on fasting was observed throughout Lent. There was much hilarity as the pancakes were tossed in the air and caught by the skilful cook, descending neatly into the skillet, which took practice and dexterity.

Even the origin of February is interesting. It was shuffled and shifted by that fine mathematician, Julius Caesar in his efforts to make the Calendar come out right. He finally arranged things to his satisfaction, bringing the calendar year even with the astronomical year. This worked out with three minutes to spare every year, and this again he levelled up by dropping leap year at stated intervals, thus adding on a day every fourth year. Try working this out.

Of course, Nature in her immemorial, unpredictable way may visit February with storms. I remember one blizzard, the worst of the year, when the wind blew a white sheet of whirling snowflakes all day and night, and day-time was dark. But afterwards the sun came out with more brightness than at any other time in the year. The snow was the essence of all whiteness, and the gold of the sun, the pale blue of the sky made a breath-taking picture that belongs to February, which some misguided folk call the Cinderella month. They have never had the good fortune to see and feel the splendor of a dazzling day after storm.

Grasses grow mainly in the upper 7 inches of soil. Legumes such as alfalfa and clover have roots that grow deep.



Presentation of the child Christ in the Temple, when a great display of candles was shown. In our secular world it is a day anxiously watched by amateur meteorologists and others when the bushy little fellow—Groundhog or Woodchuck—is supposed to awaken from his winter's sleep, stick his nose out of his frozen burrow and make headlines all over the Dominion. The prediction of future weather by a shadow is scoffed at by cold-blooded scientific research, but still, the belief that February 2nd did set a pivotal mark for the season is very ancient, and must have had years of observation to support it. I am glad that modern scepticism regard-

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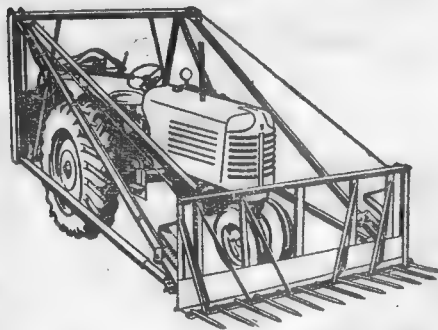
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Los Angeles		75.35	75.35	71.30	61.65
Toronto		47.20	56.55	76.60	76.60
Montreal		59.25	68.60	88.65	88.65
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"MILLER'S Champion" CHICKS AND POULTS

Now COME to EDMONTON
11808-12, 82ND ST.

We are on the march again! In order to better serve our many Alberta customers we are pleased to announce the opening of our new Branch Hatchery in Edmonton. Miller's is a progressive organization that was founded in 1917 and is now rated to be one of the largest hatchery organizations in Canada. Ever since its inception, 36 years ago, Miller's have striven to give customers of Champion chicks and poults the highest in quality and service. As far back as 1917, Miller's were serving many Alberta customers all the way from Winnipeg. In later years these customers came to be served from our Saskatoon Hatchery as well. This year, in appreciation of their patronage and in an effort to give Alberta customers better service, we have opened a branch hatchery at Edmonton.

With the very latest in incubators and brooding equipment and the same strains as are being produced by our other hatcheries, we can promise Alberta customers, who can best be served from Edmonton, they will receive the very same good quality of Champion chicks, poults or ducklings as are being produced by Miller's other branches. If you have never raised Miller's Champion chicks, poults or ducklings before, a trial this year will, we are sure, add you to the list of thousands of satisfied customers of Champion chicks, poults and ducklings, that come back year after year.

Write for FREE 32-page Catalogue in colour and New Low Competitive Prices.

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HATCHERIES AT WINNIPEG, WINKLER, SASKATOON

10% EXTRA FREE CHICKS
If order placed four weeks in advance of delivery date.

"I Saw ..."

One day, as I was riding to get the cows home for milking, I came upon a clearing in the brush and there I saw a huge coyote cantering along at a leisurely pace. I immediately rode back and got my brother with his 30.30 carbine. When we rode out together to find the coyote my dog came along. The dog went to smelling and sniffing among the stumps till he caught the scent of the coyote. He then trailed the coyote until he sighted him and then went after him with a bound. The coyote didn't see the dog till he was about 4 yards behind him, and then he didn't have time to leap out of the way, so the dog hit the coyote and rolled him over on his back. Meanwhile my brother had got off his horse and now aiming his gun, he paused until the dog rolled clear, then fired. At the roar of the rifle the coyote screamed in pain and terror, then slowly stiffened out.

Abe Koop.

Box 293, Carrot River, Sask.

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Pure Bred-To-Lay Chicks since 1927

Quality in chicks is one place you can't afford to cut down. Over \$10,000 R.O.P. Wing-Banded Chicks supplied our Egg Shippers last season. You reap the benefit this year. One extra egg per hen. An extra grade next fall, can repay you many times. Mail deposit or payment in full. Let us reserve your chicks for date required.

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100 50 25	100 50 25
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37.00 19.00 9.50 LS. Pull.	39.00 19.75 10.00
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22.00 11.50 5.75 Sussex	23.00 12.00 6.00
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Looking Backward ... and Forward

It is a good idea at times to look backward on the past. Twenty years ago many people were saying that the Alberta Wheat Pool was down and out.

It owed the government over \$6½ million and the \$8.4 million contributed by the farmer members to build and finance Pool elevators. It didn't look as though it was worth 50 cents on the dollar.

Some politicians were predicting the Alberta government would lose millions of the taxpayers' money through backing the Wheat Pool.

The years have rolled on and the doleful predictions did not come to pass.

The Alberta Wheat Pool paid off the government debt and it took \$8.8 million, including interest, to do so.

The original reserve holders have been repaid the \$8.4 million they contributed, all at a hundred cents on the dollar.

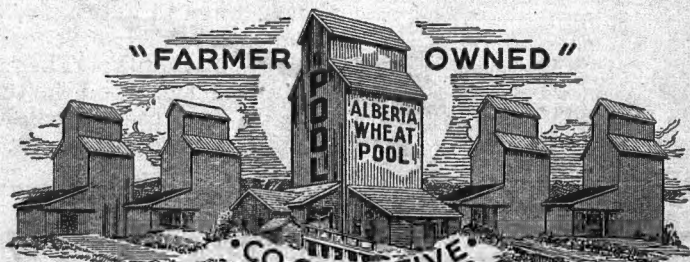
Member patrons of Alberta Pool Elevators have been paid over \$5 million in cash and over \$6 million in reserves in the form of patronage dividends.

And present Alberta Pool members own a valuable elevator system operated for their service and protection.

The Alberta Wheat Pool is not satisfied, however, with past accomplishments. It aims at increasing its usefulness to the grain producing industry. It seeks to be foremost in the fight for price protection, assured markets, better elevator service and the advancement of the farmer co-operative movement.

The present generation is living in a world where men's activities seem to have outrun their powers of control. On every side are bewildered people. This predicament cannot be contributed to the workings of blind forces. Rescue from fear and bewilderment depends upon the same and intelligent approach to the problems of human beings.

As a leading farmers' co-operative, the Alberta Wheat Pool is trying to mobilize and arm a rescue force. The co-operative movement with its objective of a fair division of the wealth produced by labor, freer trade throughout the world, an end to exploitation of the masses of people and a high idealism of working for the common good, is bound to make progress. The Alberta Wheat Pool is doing its best to help this great movement along.



"It's ALBERTA POOL ELEVATORS FOR ALBERTA FARMERS"

"Old at 40, 50, 60?" — Man, You're Crazy

Forget your age! Thousands are peppy at 70. Try "pepping up" with Ostrex. Contains tonic for weak, rundown feeling due solely to body's lack of iron which many men and women call "old." Try Ostrex Tonic Tablets for pep, younger feeling, this very day. New "get acquainted" size only 60c. For sale at all drug stores everywhere.

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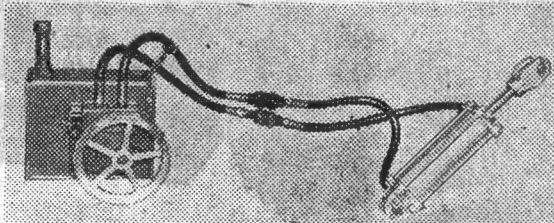
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DOUBLE OUTLET AND TWO-WAY HYDRAULIC CONVERSION UNITS



Pump, valve, and tank in one compact, self-contained unit. All units driven from crankshaft or belt pulley leaving power-take-off free. Mounting brackets available for practically all makes of tractors. Pump capacity — 10 G.P.M. and 2,000 P.S.I. Cylinder—standard lengths available—8", 10 3/4" and 16".

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The Energy hydraulic units are unique in that they can be used on such a wide variety of equipment — tractors, self-propelled combines, swathers, grain dump trucks, etc. They differ from most other makes of hydraulic units because they leave the power take-off free. Also the EMLP unit and the SFWD unit which are described below are Live Power — that is, hydraulic control is always available while the tractor motor is running.

The Energy DOUBLE outlet hydraulic pump is one of the finest units produced today, built to withstand long and hard usage. From it can be operated single acting cylinders, double acting cylinder, or any combination of single or double acting cylinders together.

We have three basic units which we shall describe below. (Each unit is compact and self-contained, having tank, pump and valve together. Individual tanks, valves, pumps, etc., can be purchased separately if required.)

EMLP unit

Pictured above and left. (End Mount Live Power) — this unit is mounted near the front of the tractor and is driven from the crankshaft. LIVE POWER unit because hydraulic power is always available while the tractor motor is running.

SMPD unit

Pictured left (Side Mount Pulley Drive) — Mounted near and driven by the belt pulley.

SFWD unit

Lower picture (Side Fly-Wheel Drive) — for John Deere tractors. Similar in design to the SMPD but it is a Left Hand Drive (all other units are right hand or clockwise rotation). Driven by a specially constructed pulley attached to the fly wheel—does not interfere with starter and hand cranking. Also a Live Power Unit.

Brackets are available for those tractors listed on our literature.

Included are all necessary belts, pulleys, extension control rod to driver's seat, etc. For tractors not listed, brackets can easily be made in local shops.

Our price sheet lists complete kits, however, individual items can be purchased.

Example :

A Complete ENERGY Hydraulic Kit for Deere D model includes : pulleys, hoses, coupler, etc.

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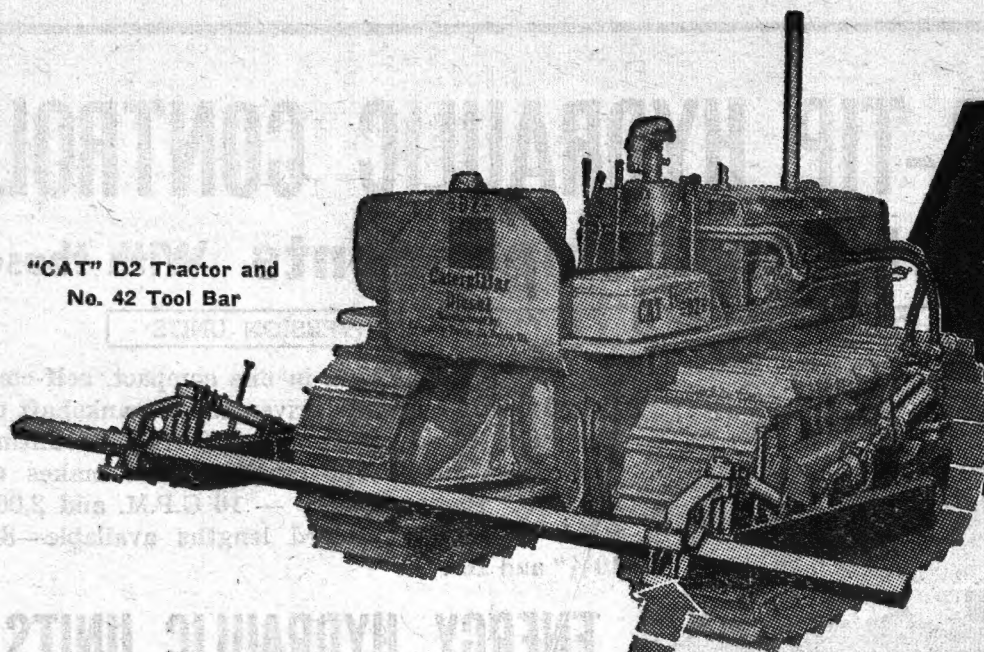


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No. 42 Tool Bar



"Caterpillar" Tool Bars — design-matched to "Caterpillar" track-type farm tractors — are hydraulically operated by either the No. 44 or No. 41 hydraulic control. These 4-position units (raise-hold-lower-float) give close command over tillage implements and other ground-engaging units. A convenient operating lever lifts the tools clear for transporting, turning and backing . . . lowers the tools and forces them into the ground . . . or lets tools float, seeking their own depth by suction.

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"Cat" Tool Bar arrangements come in two sizes: The No. 42 for use with your "Caterpillar"-built Diesel D2 or D4 tractor, and the No. 64 for heavier tillage work with either the D4 or D6 Tractor. This implement mounting makes full, effective use of "Caterpillar" traction-power — for such jobs as subsoiling, chiseling, ditching, listing, field cultivating or ridging.

You buy your tools as you need them — they're matched to your original investment — the "Caterpillar" Tool Bar!

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need! Ask your "CATERPIL-
lary" distributor to show you the 32 h.p.
D2 . . . the power-packed
and 81 h.p. D7 and the mighty
All are built to "CATERPIL-
lary" standards . . . all
for you.*

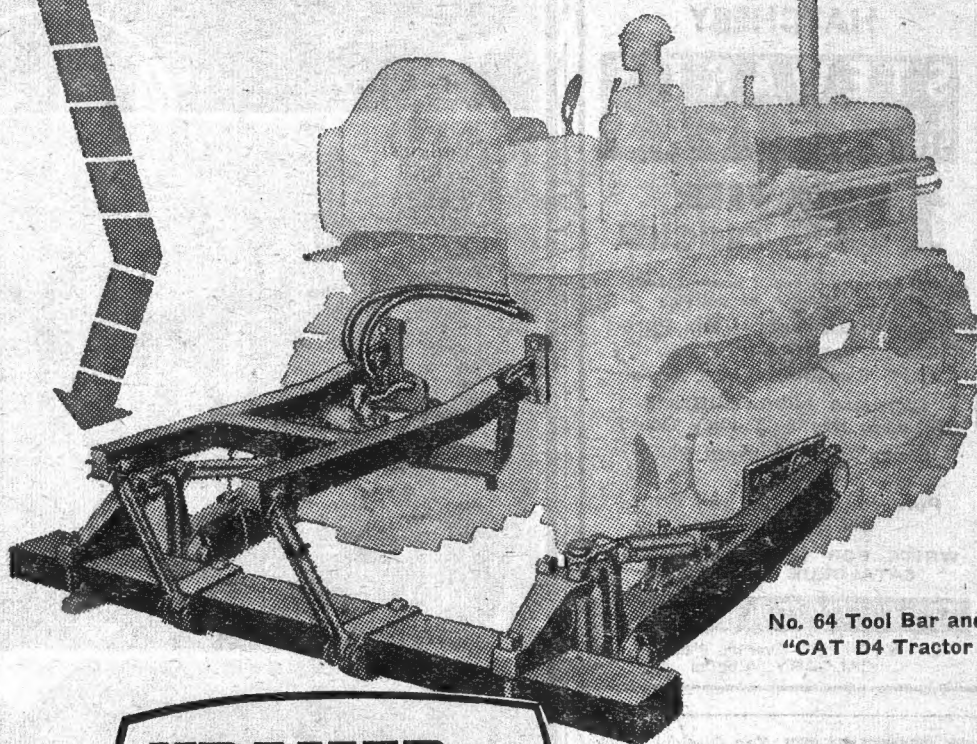
THE WAY TO NEW Farming Efficiency

FOR EASIER, BETTER, MORE ECONOMICAL
FARMING, THIS COMBINATION . . . "CAT"
TOOL BARS AND "CAT" TRACK-TYPE
TRACTORS . . . SHOWS THE WAY . . .

Take the famed diesel power, diesel economy and geared-to-the-ground effort of a "Caterpillar"-built track-type farm tractor. Add easy handling and positive, **ACCURATE** control of cleverly integrated ground-engaging implements. And the answer is found in your records book — on the **PROFITS** side!

BIGGER AND BETTER CROPS . . .

An integrally mounted "Caterpillar" Tool Bar makes a compact tillage unit that assures straight crop rows, correct tool penetration, efficient use of power, ease of steering and complete mobility. Full use of irregular fields — working close to fence rows and ditches — short turns at row ends — backing into corners . . . That's how you increase land utilization by combining economical, "Cat"-built track-type tractors with design-matched "Caterpillar" Tool Bars. It all adds up to **BETTER CROPS — BIGGER PROFITS!**



No. 64 Tool Bar and
"CAT" D4 Tractor

KRAMER

tractor
COMPANY LTD.

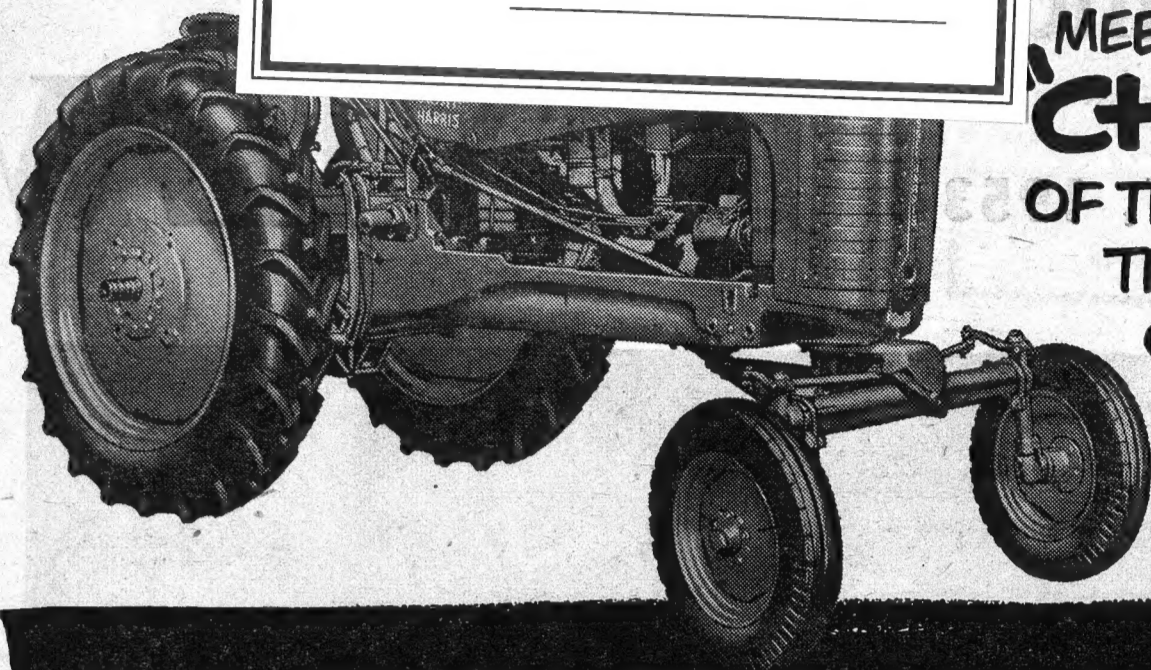
"CATERPILLAR" DISTRIBUTORS FOR SASKATCHEWAN

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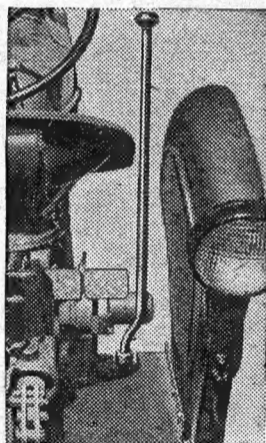
MEET THE NEW
"CHAMP"
OF THE 3-PLOW
TRACTOR
CLASS

It's the NEW MASSEY HARRIS "33"

- 201 Cubic Inch Engine . . . full 3-plow power
- Roto-Valves . . . maintain full power longer
- Removable "Wet" Cylinder Sleeves . . . no re-boring
- Improved Manifold and Carburetor for greater fuel economy
- 5 Forward Speeds . . . a "right" speed for every job
- Live P.T.O. for better work with any P.T.O. machine
- Velvet-Ride Seat, large platform, lots of leg room

If your farm calls for 3-plow power, don't fail to take a good look at the new Massey-Harris "33" Tractor. This new tractor has ample power to turn three 14-inch furrows or pull any kind of similar load. In addition, you'll find it offers you more desirable features than any other tractor in the 3-plow class. We invite you to compare it, point by point, with any other 3-plow tractor at any price.

Besides the seven features listed above, you'll find many others that help to assure top performance and easy handling . . . all controls in "natural" position, improved throttle lever, Depth-O-Matic hydraulic system with 2-way control, 4-ring aluminum alloy pistons, heavy duty crankshaft, packless water pump and thermostat, directional cooling that eliminates hot spots. See this new "champ" at your Massey-Harris dealer's soon.



LIVE P.T.O.

Factory Installed on Special Order
ON M-H "33" and "44" TRACTORS

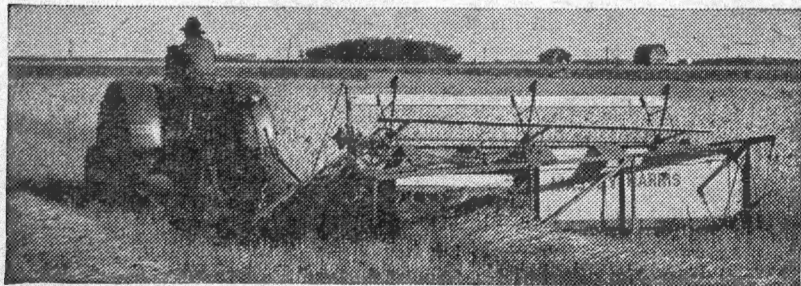
Live P. T. O. gives you constant-running, independent power for your P. T. O. machines. Enables you to bring your machines up to proper operating speed before you move your tractor forward . . . or slow down the tractor without slowing down the operating speed of the machine you are pulling. Enables you to clear choked cylinders or plugged moving parts without stopping. Pre-

vents P. T. O. machines from slowing down on hilly land or when turning corners. Gives you the advantage of a separate mounted engine without extra cost or expense. Operated by long, easy-to-reach lever beside the tractor seat.

LIVE P.T.O.

**MAKES THE FAMOUS M-H "44" TRACTOR
BETTER THAN EVER FOR MANY JOBS**

Over the years, the Massey-Harris "44" has become the most popular tractor in Western Canada and in many parts of Eastern Canada. In every province, from coast to coast, big-scale farmers praise it for its combination of power, economy and dependability. Many are now using their second, third or fourth "44's". Now this famous tractor (gasoline or diesel) can be equipped with Live P. T. O. which makes it a still-better power plant for all P. T. O. jobs. Get full particulars from your Massey-Harris dealer.



MASSEY-HARRIS TRACTORS

COAST TO COAST MASSEY-HARRIS OFFERS MOST



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